

Gly	Thr	Ser	Asn	Lys	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	Asp	His	Phe		
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Leu	Ser	Leu	Gln	Arg	Met	Phe	Asn	Asn	Cys	Glu	Val	Val	Leu	Gly	Asn		
	50					55				60							
ttg	gaa	att	acc	tat	gtg	cag	agg	aat	tat	gat	ctt	tcc	ttc	tta	aag	240	
Leu	Glu	Ile	Thr	Tyr	Val	Gln	Arg	Asn	Tyr	Asp	Leu	Ser	Phe	Leu	Lys		
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acc	atc	cag	gag	gtg	gct	ggc	tat	gtc	ctc	att	gcc	ctc	aac	aca	gtg	288	
Thr	Ile	Gln	Glu	Val	Ala	Gly	Tyr	Val	Leu	Ile	Ala	Leu	Asn	Thr	Val		
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gag	cga	att	cct	ttg	gaa	aac	ctg	cag	atc	atc	aga	gga	aat	atg	tac	336	
Glu	Arg	Ile	Pro	Leu	Glu	Asn	Leu	Gln	Ile	Ile	Arg	Gly	Asn	Met	Tyr		
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Tyr	Glu	Asn	Ser	Tyr	Ala	Leu	Ala	Val	Leu	Ser	Asn	Tyr	Asp	Ala	Asn		
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Lys	Thr	Gly	Leu	Lys	Glu	Leu	Pro	Met	Arg	Asn	Leu	Gln	Glu	Ile	Leu		
	130					135					140						
cat	ggc	gcc	gtg	cgg	ttc	agc	aac	aac	cct	gcc	ctg	tgc	aac	gtg	gag	480	
His	Gly	Ala	Val	Arg	Phe	Ser	Asn	Asn	Pro	Ala	Leu	Cys	Asn	Val	Glu		
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agc	atc	cag	tgg	cgg	gac	ata	gtc	agc	agt	gac	ttt	ctc	agc	aac	atg	528	
Ser	Ile	Gln	Trp	Arg	Asp	Ile	Val	Ser	Ser	Asp	Phe	Leu	Ser	Asn	Met		
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tcg	atg	gac	ttc	cag	aac	cac	ctg	ggc	agc	tgc	caa	aag	tgt	gat	cca	576	
Ser	Met	Asp	Phe	Gln	Asn	His	Leu	Gly	Ser	Cys	Gln	Lys	Cys	Asp	Pro		
			180					185					190				
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Ser	Cys	Pro	Asn	Gly	Ser	Cys	Trp	Gly	Ala	Gly	Glu	Glu	Asn	Cys	Gln		
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aaa	ctg	acc	aaa	atc	atc	tgt	gcc	cag	cag	tgc	tcc	ggg	cgc	tgc	cgt	672	
Lys	Leu	Thr	Lys	Ile	Ile	Cys	Ala	Gln	Gln	Cys	Ser	Gly	Arg	Cys	Arg		
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ggc	aag	tcc	ccc	agt	gac	tgc	tgc	cac	aac	cag	tgt	gct	gca	ggc	tgc	720	
Gly	Lys	Ser	Pro	Ser	Asp	Cys	Cys	His	Asn	Gln	Cys	Ala	Ala	Gly	Cys		
225					230				235					240			
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Thr	Gly	Pro	Arg	Glu	Ser	Asp	Cys	Leu	Val	Cys	Arg	Lys	Phe	Arg	Asp		
				245				250						255			
gaa	gcc	acg	tgc	aag	gac	acc	tgc	ccc	cca	ctc	atg	ctc	tac	aac	ccc	816	
Glu	Ala	Thr	Cys	Lys	Asp	Thr	Cys	Pro	Pro	Leu	Met	Leu	Tyr	Asn	Pro		

260							265							270													
acc	acg	tac	cag	atg	gat	gtg	aac	ccc	gag	ggc	aaa	tac	agc	ttt	ggc	864											
Thr	Thr	Tyr	Gln	Met	Asp	Val	Asn	Pro	Glu	Gly	Lys	Tyr	Ser	Phe	Gly												
275							280							285													
gcc	acc	tgc	gtg	aag	aag	tgt	ccc	cgt	aat	tat	gtg	gtg	aca	gat	cac	912											
Ala	Thr	Cys	Val	Lys	Lys	Cys	Pro	Arg	Asn	Tyr	Val	Val	Thr	Asp	His												
290							295							300													
ggc	tcg	tgc	gtc	cga	gcc	tgt	ggg	gcc	gac	agc	tat	gag	atg	gag	gaa	960											
Gly	Ser	Cys	Val	Arg	Ala	Cys	Gly	Ala	Asp	Ser	Tyr	Glu	Met	Glu	Glu												
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gac	ggc	gtc	cgc	aag	tgt	aag	aag	tgc	gaa	ggg	cct	tgc	cgc	aaa	gtg	1008											
Asp	Gly	Val	Arg	Lys	Cys	Lys	Lys	Cys	Glu	Gly	Pro	Cys	Arg	Lys	Val												
325							330							335													
tgt	aac	gga	ata	ggc	att	ggc	gaa	ttt	aaa	gac	tca	ctc	tcc	ata	aat	1056											
Cys	Asn	Gly	Ile	Gly	Ile	Gly	Glu	Phe	Lys	Asp	Ser	Leu	Ser	Ile	Asn												
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gct	acg	aat	att	aaa	cac	ttc	aaa	aac	tgc	acc	tcc	atc	agt	ggc	gat	1104											
Ala	Thr	Asn	Ile	Lys	His	Phe	Lys	Asn	Cys	Thr	Ser	Ile	Ser	Gly	Asp												
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ctc	cac	atc	ctg	ccg	gtg	gca	ttt	agg	ggc	gac	tcc	ttc	aca	cat	act	1152											
Leu	His	Ile	Leu	Pro	Val	Ala	Phe	Arg	Gly	Asp	Ser	Phe	Thr	His	Thr												
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cct	cct	ctg	gat	cca	cag	gaa	ctg	gat	att	ctg	aaa	acc	gta	aag	gaa	1200											
Pro	Pro	Leu	Asp	Pro	Gln	Glu	Leu	Asp	Ile	Leu	Lys	Thr	Val	Lys	Glu												
385							390							395							400						
atc	aca	ggg	ttt	ttg	ctg	att	cag	gct	tgg	cct	gaa	aac	agg	acg	gac	1248											
Ile	Thr	Gly	Phe	Leu	Leu	Ile	Gln	Ala	Trp	Pro	Glu	Asn	Arg	Thr	Asp												
405							410							415													
ctc	cat	gcc	ttt	gag	aac	cta	gaa	atc	ata	cgc	ggc	agg	acc	aag	caa	1296											
Leu	His	Ala	Phe	Glu	Asn	Leu	Glu	Ile	Ile	Arg	Gly	Arg	Thr	Lys	Gln												
420							425							430													
cat	ggc	cag	ttt	tct	ctt	gca	gtc	gtc	agc	ctg	aac	ata	aca	tcc	ttg	1344											
His	Gly	Gln	Phe	Ser	Leu	Ala	Val	Val	Ser	Leu	Asn	Ile	Thr	Ser	Leu												
435							440							445													
gga	tta	cgc	tcc	ctc	aag	gag	ata	agt	gat	gga	gat	gtg	ata	att	tca	1392											
Gly	Leu	Arg	Ser	Leu	Lys	Glu	Ile	Ser	Asp	Gly	Asp	Val	Ile	Ile	Ser												
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ttt	ggg	acc	tcc	ggc	cag	aaa	acc	aaa	att	ata	agc	aac	aga	ggc	gaa	1488											
Phe	Gly	Thr	Ser	Gly	Gln	Lys	Thr	Lys	Ile	Ile	Ser	Asn	Arg	Gly	Glu												
485							490							495													

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gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly 530 535 540	1632
gag cca agg gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro 545 550 555 560	1680
gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro 565 570 575	1728
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aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys 610 615 620	1872
acc tac gga tgc act ggg cca ggt ctt gaa ggc tgt cca acg aat ggg Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly 625 630 635 640	1920
cct aag atc ccg tcc atc gcc act ggg atg gtg ggg gcc ctc ctc ttg Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu 645 650 655	1968
ctg ctg gtg gtg gcc ctg ggg atc ggc ctc ttc atg cga agg cgc cac Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His 660 665 670	2016
atc gtt cgg aag cgc acg ctg cgg agg ctg ctg cag gag agg gag ctt Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu 675 680 685	2064
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agg atc ttg aag gaa act gaa ttc aaa aag atc aaa gtg ctg ggc tcc Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser 705 710 715 720	2160

ggt gcg ttc ggc acg gtg tat aag gga ctc tgg atc cca gaa ggt gag Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu 725 730 735	2208
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acc gtg cag ctc atc acg cag ctc atg ccc ttc ggc tgc ctc ctg gac Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp 785 790 795 800	2400
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tgg tgt gtg cag atc gca aag ggc atg aac tac ttg gag gac cgt cgc Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg 820 825 830	2496
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gaa gag aaa gaa tac cat gca gaa gga ggc aaa gtg cct atc aag tgg Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp 865 870 875 880	2640
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Phe	Arg	Glu	Leu	Ile	Ile	Glu	Phe	Ser	Lys	Met	Ala	Arg	Asp	Pro	Gln		
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Arg	Tyr	Leu	Val	Ile	Gln	Gly	Asp	Glu	Arg	Met	His	Leu	Pro	Ser	Pro		
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Thr	Asp	Ser	Asn	Phe	Tyr	Arg	Ala	Leu	Met	Asp	Glu	Glu	Asp	Met	Asp		
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gac	gtg	gtg	gat	gcc	gac	gag	tac	ctc	atc	cca	cag	cag	ggc	ttc			3069
Asp	Val	Val	Asp	Ala	Asp	Glu	Tyr	Leu	Ile	Pro	Gln	Gln	Gly	Phe			
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Phe	Ser	Ser	Pro	Ser	Thr	Ser	Arg	Thr	Pro	Leu	Leu	Ser	Ser	Leu			
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Ser	Ala	Thr	Ser	Asn	Asn	Ser	Thr	Val	Ala	Cys	Ile	Asp	Arg	Asn			
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Asp	Thr	Phe	Leu	Pro	Val	Pro	Glu	Tyr	Ile	Asn	Gln	Ser	Val	Pro			
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aaa	agg	ccc	gct	ggc	tct	gtg	cag	aat	cct	gtc	tat	cac	aat	cag			3339
Lys	Arg	Pro	Ala	Gly	Ser	Val	Gln	Asn	Pro	Val	Tyr	His	Asn	Gln			
	1100					1105					1110						
cct	ctg	aac	ccc	gcg	ccc	agc	aga	gac	cca	cac	tac	cag	gac	ccc			3384
Pro	Leu	Asn	Pro	Ala	Pro	Ser	Arg	Asp	Pro	His	Tyr	Gln	Asp	Pro			
	1115					1120					1125						
cac	agc	act	gca	gtg	ggc	aac	ccc	gag	tat	ctc	aac	act	gtc	cag			3429
His	Ser	Thr	Ala	Val	Gly	Asn	Pro	Glu	Tyr	Leu	Asn	Thr	Val	Gln			
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ccc	acc	tgt	gtc	aac	agc	aca	ttc	gac	agc	cct	gcc	cac	tggt	gcc			3474
Pro	Thr	Cys	Val	Asn	Ser	Thr	Phe	Asp	Ser	Pro	Ala	His	Trp	Ala			
	1145					1150					1155						
cag	aaa	ggc	agc	cac	caa	att	agc	ctg	gac	aac	cct	gac	tac	cag			3519
Gln	Lys	Gly	Ser	His	Gln	Ile	Ser	Leu	Asp	Asn	Pro	Asp	Tyr	Gln			

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Gln Asp Phe Phe Pro Lys Glu	Ala Lys Pro Asn Gly	Ile Phe Lys	
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Gly Ser Thr Ala Glu Asn Ala	Glu Tyr Leu Arg Val	Ala Pro Gln	
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Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
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Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
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Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
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Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
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His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
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Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
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Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305 310 315 320

Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
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Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
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Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
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Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
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Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
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Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
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Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
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Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
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Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
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Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
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Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
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Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
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Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
645 650 655

Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
660 665 670

Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
675 680 685

Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu
690 695 700

Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser
705 710 715 720

Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu
725 730 735

Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser
740 745 750

Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser
755 760 765

Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser
770 775 780

Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp
785 790 795 800

Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn

805

810

815

Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg
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Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro
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Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala
 850 855 860

Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp
 865 870 875 880

Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp
 885 890 895

Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser
 900 905 910

Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu
 915 920 925

Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr
 930 935 940

Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys
 945 950 955 960

Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
 965 970 975

Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro
 980 985 990

Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp
 995 1000 1005

Asp Val Val Asp Ala Asp Glu Tyr Leu Ile Pro Gln Gln Gly Phe
 1010 1015 1020

Phe Ser Ser Pro Ser Thr Ser Arg Thr Pro Leu Leu Ser Ser Leu
 1025 1030 1035

Ser Ala Thr Ser Asn Asn Ser Thr Val Ala Cys Ile Asp Arg Asn
1040 1045 1050

Gly Leu Gln Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg
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Tyr Ser Ser Asp Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp
1070 1075 1080

Asp Thr Phe Leu Pro Val Pro Glu Tyr Ile Asn Gln Ser Val Pro
1085 1090 1095

Lys Arg Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln
1100 1105 1110

Pro Leu Asn Pro Ala Pro Ser Arg Asp Pro His Tyr Gln Asp Pro
1115 1120 1125

His Ser Thr Ala Val Gly Asn Pro Glu Tyr Leu Asn Thr Val Gln
1130 1135 1140

Pro Thr Cys Val Asn Ser Thr Phe Asp Ser Pro Ala His Trp Ala
1145 1150 1155

Gln Lys Gly Ser His Gln Ile Ser Leu Asp Asn Pro Asp Tyr Gln
1160 1165 1170

Gln Asp Phe Phe Pro Lys Glu Ala Lys Pro Asn Gly Ile Phe Lys
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Ser Ser Glu Phe Ile Gly Ala
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<211> 1974

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<222> (1)..(1971)

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gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag aaa gtt tgc caa	96
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln	
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ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt	144
Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe	
35 40 45	
ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat	192
Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn	
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ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag	240
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys	
65 70 75 80	
acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg	288
Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val	
85 90 95	
gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac	336
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr	
100 105 110	
tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat	384
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn	
115 120 125	
aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg	432
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu	
130 135 140	
cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag	480
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu	
145 150 155 160	
agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg	528
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met	
165 170 175	

tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro 180 185 190	576
agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln 195 200 205	624
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aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp 245 250 255	768
gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro 260 265 270	816
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gcc acc tgc gtg aag aag tgt ccc cgt aat tat gtg gtg aca gat cac Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His 290 295 300	912
ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat gag atg gag gaa Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu 305 310 315 320	960
gac ggc gtc cgc aag tgt aag aag tgc gaa ggg cct tgc cgc aaa gtg Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val 325 330 335	1008
tgt aac gga ata ggt att ggt gaa ttt aaa gac tca ctc tcc ata aat Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn 340 345 350	1056
gct acg aat att aaa cac ttc aaa aac tgc acc tcc atc agt ggc gat Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp 355 360 365	1104
ctc cac atc ctg ccg gtg gca ttt agg ggt gac tcc ttc aca cat act Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr 370 375 380	1152
cct cct ctg gat cca cag gaa ctg gat att ctg aaa acc gta aag gaa Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu 385 390 395 400	1200

atc aca ggg ttt ttg ctg att cag gct tgg cct gaa aac agg acg gac Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp 405 410 415	1248
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cat ggt cag ttt tct ctt gca gtc gtc agc ctg aac ata aca tcc ttg His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu 435 440 445	1344
gga tta cgc tcc ctc aag gag ata agt gat gga gat gtg ata att tca Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser 450 455 460	1392
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gag ggc tgc tgg ggc ccg gag ccc agg gac tgc gtc tct tgc cgg aat Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn 515 520 525	1584
gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly 530 535 540	1632
gag cca agg gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro 545 550 555 560	1680
gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro 565 570 575	1728
gac aac tgt atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val 580 585 590	1776
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aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys 610 615 620	1872
acc tac gga tgc act ggg cca ggt ctt gaa ggc tgt cca acg aat gga	1920

Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
625 630 635 640

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Ser Tyr Ile Val Ser His Phe Pro Arg Ser Phe Tyr Lys Met Ser Val
645 650 655

cac tga 1974
His

<210> 4

<211> 657

<212> PRT

<213> Human homo sapiens)

<400> 4

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35 40 45

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu

130		135		140
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu				
145		150		155 160
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met				
	165		170	175
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro				
	180		185	190
Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln				
	195		200	205
Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg				
	210		215	220
Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys				
225		230		235 240
Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp				
	245		250	255
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro				
	260		265	270
Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly				
	275		280	285
Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His				
	290		295	300
Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu				
305		310		315 320
Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val				
	325		330	335
Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn				
	340		345	350
Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp				
	355		360	365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
485 490 495

Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
610 615 620

Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
625 630 635 640

Ser Tyr Ile Val Ser His Phe Pro Arg Ser Phe Tyr Lys Met Ser Val
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His

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<222> (1)..(2115)

<223>

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1				5				10						15		

gcg	ctc	tgc	ccg	gcg	agt	cgg	gct	ctg	gag	gaa	aag	aaa	gtt	tgc	caa	96
Ala	Leu	Cys	Pro	Ala	Ser	Arg	Ala	Leu	Glu	Glu	Lys	Lys	Val	Cys	Gln	
			20					25					30			

ggc	acg	agt	aac	aag	ctc	acg	cag	ttg	ggc	act	ttt	gaa	gat	cat	ttt	144
Gly	Thr	Ser	Asn	Lys	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	Asp	His	Phe	
		35					40					45				

ctc	agc	ctc	cag	agg	atg	ttc	aat	aac	tgt	gag	gtg	gtc	ctt	ggg	aat	192
Leu	Ser	Leu	Gln	Arg	Met	Phe	Asn	Asn	Cys	Glu	Val	Val	Leu	Gly	Asn	
		50				55					60					

ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag	240
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys	
65 70 75 80	
acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg	288
Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val	
85 90 95	
gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac	336
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr	
100 105 110	
tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat	384
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn	
115 120 125	
aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg	432
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu	
130 135 140	
cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag	480
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu	
145 150 155 160	
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Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met	
165 170 175	
tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca	576
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro	
180 185 190	
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Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln	
195 200 205	
aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt	672
Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg	
210 215 220	
ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc	720
Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys	
225 230 235 240	
aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac	768
Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp	
245 250 255	
gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc	816
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro	
260 265 270	
acc acg tac cag atg gat gtg aac ccc gag ggc aaa tac agc ttt ggt	864
Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly	
275 280 285	

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ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat gag atg gag gaa Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu 305 310 315 320	960
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tgt aac gga ata ggt att ggt gaa ttt aaa gac tca ctc tcc ata aat Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn 340 345 350	1056
gct acg aat att aaa cac ttc aaa aac tgc acc tcc atc agt ggc gat Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp 355 360 365	1104
ctc cac atc ctg ccg gtg gca ttt agg ggt gac tcc ttc aca cat act Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr 370 375 380	1152
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cat ggt cag ttt tct ctt gca gtc gtc agc ctg aac ata aca tcc ttg His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu 435 440 445	1344
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Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn	
515 520 525	
gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt	1632
Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly	
530 535 540	
gag cca agg gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca	1680
Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro	
545 550 555 560	
gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca	1728
Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro	
565 570 575	
gac aac tgt atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc	1776
Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val	
580 585 590	
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Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp	
595 600 605	
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Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys	
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Thr Tyr Gly Pro Gly Asn Glu Ser Leu Lys Ala Met Leu Phe Cys Leu	
625 630 635 640	
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Gln Ser Gly Ser Pro Ala Ala Gln Glu Ser Cys Leu Gly Trp Ile Pro	
660 665 670	
tct ctt ctg ccg tca gag ttt cag ctg ggt tgg ggt gga tgc agc cac	2064
Ser Leu Leu Pro Ser Glu Phe Gln Leu Gly Trp Gly Gly Cys Ser His	
675 680 685	
ctc cat gcc tgg cct tct gca tct gtg atc atc acg gcc tcc tcc tgc	2112
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His	
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<211> 705

<212> PRT

<213> Human(homo sapiens)

<400> 6

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35 40 45

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
165 170 175

Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305 310 315 320

Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
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Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
485 490 495

Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
610 615 620

Thr Tyr Gly Pro Gly Asn Glu Ser Leu Lys Ala Met Leu Phe Cys Leu
625 630 635 640

Phe Lys Leu Ser Ser Cys Asn Gln Ser Asn Asp Gly Ser Val Ser His
645 650 655

Gln Ser Gly Ser Pro Ala Ala Gln Glu Ser Cys Leu Gly Trp Ile Pro
660 665 670

Ser Leu Leu Pro Ser Glu Phe Gln Leu Gly Trp Gly Gly Cys Ser His
675 680 685

Leu His Ala Trp Pro Ser Ala Ser Val Ile Ile Thr Ala Ser Ser Cys
690 695 700

His
705

<210> 7

<211> 1887

<212> DNA

<213> Human homo sapiens)

<220>

<221> CDS

<222> (1)..(1884)

<223>

<400> 7

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Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala	
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gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag aaa gtt tgc caa	96
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln	
20 25 30	

ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt	144
Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe	
35 40 45	

ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat	192
Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn	
50 55 60	

ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag	240
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys	
65 70 75 80	

acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg	288
Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val	
85 90 95	
gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac	336
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr	
100 105 110	
tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat	384
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn	
115 120 125	
aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg	432
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu	
130 135 140	
cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag	480
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu	
145 150 155 160	
agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg	528
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met	
165 170 175	
tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca	576
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro	
180 185 190	
agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag	624
Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln	
195 200 205	
aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt	672
Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg	
210 215 220	
ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc	720
Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys	
225 230 235 240	
aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac	768
Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp	
245 250 255	
gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc	816
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro	
260 265 270	
acc acg tac cag atg gat gtg aac ccc gag ggc aaa tac agc ttt ggt	864
Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly	
275 280 285	
gcc acc tgc gtg aag aag tgt ccc cgt aat tat gtg gtg aca gat cac	912
Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His	
290 295 300	
ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat gag atg gag gaa	960

Gly 305	Ser	Cys	Val	Arg	Ala 310	Cys	Gly	Ala	Asp	Ser 315	Tyr	Glu	Met	Glu	Glu 320	
gac Asp	ggc Gly	gtc Val	cgc Arg	aag Lys	tgt Cys	aag Lys	aag Lys	tgc Cys	gaa Glu	ggg Gly	cct Pro	tgc Cys	cgc Arg	aaa Lys	gtg Val	1008
				325					330					335		
tgt Cys	aac Asn	gga Gly	ata Ile	ggt Gly	att Ile	ggt Gly	gaa Glu	ttt Phe	aaa Lys	gac Asp	tca Ser	ctc Leu	tcc Ser	ata Ile	aat Asn	1056
			340					345					350			
gct Ala	acg Thr	aat Asn	att Ile	aaa Lys	cac His	ttc Phe	aaa Lys	aac Asn	tgc Cys	acc Thr	tcc Ser	atc Ile	agt Ser	ggc Gly	gat Asp	1104
		355					360					365				
ctc Leu	cac His	atc Ile	ctg Leu	ccg Pro	gtg Val	gca Ala	ttt Phe	agg Arg	ggt Gly	gac Asp	tcc Ser	ttc Phe	aca Thr	cat His	act Thr	1152
						375					380					
cct Pro	cct Pro	ctg Leu	gat Asp	cca Pro	cag Gln	gaa Glu	ctg Leu	gat Asp	att Ile	ctg Leu	aaa Lys	acc Thr	gta Val	aag Lys	gaa Glu	1200
385					390					395					400	
atc Ile	aca Thr	ggg Gly	ttt Phe	ttg Leu	ctg Leu	att Ile	cag Gln	gct Ala	tgg Trp	cct Pro	gaa Glu	aac Asn	agg Arg	acg Thr	gac Asp	1248
				405					410					415		
ctc Leu	cat His	gcc Ala	ttt Phe	gag Glu	aac Asn	cta Leu	gaa Glu	atc Ile	ata Ile	cgc Arg	ggc Gly	agg Arg	acc Thr	aag Lys	caa Gln	1296
			420					425					430			
cat His	ggt Gly	cag Gln	ttt Phe	tct Ser	ctt Leu	gca Ala	gtc Val	gtc Val	agc Ser	ctg Leu	aac Asn	ata Ile	aca Thr	tcc Ser	ttg Leu	1344
		435					440					445				
gga Gly	tta Leu	cgc Arg	tcc Ser	ctc Leu	aag Lys	gag Glu	ata Ile	agt Ser	gat Asp	gga Gly	gat Asp	gtg Val	ata Ile	att Ile	tca Ser	1392
	450					455				460						
gga Gly	aac Asn	aaa Lys	aat Asn	ttg Leu	tgc Cys	tat Tyr	gca Ala	aat Asn	aca Thr	ata Ile	aac Asn	tgg Trp	aaa Lys	aaa Lys	ctg Leu	1440
465				470						475					480	
ttt Phe	ggg Gly	acc Thr	tcc Ser	ggt Gly	cag Gln	aaa Lys	acc Thr	aaa Lys	att Ile	ata Ile	agc Ser	aac Asn	aga Arg	ggt Gly	gaa Glu	1488
				485					490					495		
aac Asn	agc Ser	tgc Cys	aag Lys	gcc Ala	aca Thr	ggc Gly	cag Gln	gtc Val	tgc Cys	cat His	gcc Ala	ttg Leu	tgc Cys	tcc Ser	ccc Pro	1536
			500					505					510			
gag Glu	ggc Gly	tgc Cys	tgg Trp	ggc Gly	ccg Pro	gag Glu	ccc Pro	agg Arg	gac Asp	tgc Cys	gtc Val	tct Ser	tgc Cys	cgg Arg	aat Asn	1584
		515					520					525				
gtc Val	agc Ser	cga Arg	ggc Gly	agg Arg	gaa Glu	tgc Cys	gtg Val	gac Asp	aag Lys	tgc Cys	aac Asn	ctt Leu	ctg Leu	gag Glu	ggt Gly	1632

530	535	540	
gag cca agg gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca			1680
Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro			
545	550	555	560
gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca			1728
Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro			
	565	570	575
gac aac tgt atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc			1776
Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val			
	580	585	590
aag acc tgc ccg gca gga gtc atg gga gaa aac aac acc ctg gtc tgg			1824
Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp			
	595	600	605
aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc			1872
Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys			
	610	615	620
acc tac ggg tcc taa			1887
Thr Tyr Gly Ser			
625			

<210> 8

<211> 628

<212> PRT

<213> Human(homo sapiens)

<400> 8

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Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe			
	35	40	45
Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn			
	50	55	60
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys			
65	70	75	80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
165 170 175

Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305 310 315 320

Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
340 345 350

Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
485 490 495

Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
610 615 620

Thr Tyr Gly Ser
625

<210> 9

<211> 1218

<212> DNA

<213> Human homo sapiens)

<220>

<221> CDS

<222> (1)..(1215)

<223>

<400> 9

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Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala	
1 5 10 15	

gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag aaa gtt tgc caa	96
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln	
20 25 30	

ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe 35 40 45	144
ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn 50 55 60	192
ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys 65 70 75 80	240
acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val 85 90 95	288
gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr 100 105 110	336
tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn 115 120 125	384
aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu 130 135 140	432
cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu 145 150 155 160	480
agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met 165 170 175	528
tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro 180 185 190	576
agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln 195 200 205	624
aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg 210 215 220	672
ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys 225 230 235 240	720
aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp 245 250 255	768
gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc	816

Glu	Ala	Thr	Cys	Lys	Asp	Thr	Cys	Pro	Pro	Leu	Met	Leu	Tyr	Asn	Pro		
			260					265					270				
acc	acg	tac	cag	atg	gat	gtg	aac	ccc	gag	ggc	aaa	tac	agc	ttt	ggc	864	
Thr	Thr	Tyr	Gln	Met	Asp	Val	Asn	Pro	Glu	Gly	Lys	Tyr	Ser	Phe	Gly		
		275					280					285					
gcc	acc	tgc	gtg	aag	aag	tgt	ccc	cgt	aat	tat	gtg	gtg	aca	gat	cac	912	
Ala	Thr	Cys	Val	Lys	Lys	Cys	Pro	Arg	Asn	Tyr	Val	Val	Thr	Asp	His		
		290				295					300						
ggc	tcg	tgc	gtc	cga	gcc	tgt	ggg	gcc	gac	agc	tat	gag	atg	gag	gaa	960	
Gly	Ser	Cys	Val	Arg	Ala	Cys	Gly	Ala	Asp	Ser	Tyr	Glu	Met	Glu	Glu		
305					310				315						320		
gac	ggc	gtc	cgc	aag	tgt	aag	aag	tgc	gaa	ggg	cct	tgc	cgc	aaa	gtg	1008	
Asp	Gly	Val	Arg	Lys	Cys	Lys	Lys	Cys	Glu	Gly	Pro	Cys	Arg	Lys	Val		
			325					330						335			
tgt	aac	gga	ata	ggc	att	ggc	gaa	ttt	aaa	gac	tca	ctc	tcc	ata	aat	1056	
Cys	Asn	Gly	Ile	Gly	Ile	Gly	Glu	Phe	Lys	Asp	Ser	Leu	Ser	Ile	Asn		
			340				345						350				
gct	acg	aat	att	aaa	cac	ttc	aaa	aac	tgc	acc	tcc	atc	agt	ggc	gat	1104	
Ala	Thr	Asn	Ile	Lys	His	Phe	Lys	Asn	Cys	Thr	Ser	Ile	Ser	Gly	Asp		
		355				360					365						
ctc	cac	atc	ctg	ccg	gtg	gca	ttt	agg	ggc	gac	tcc	ttc	aca	cat	act	1152	
Leu	His	Ile	Leu	Pro	Val	Ala	Phe	Arg	Gly	Asp	Ser	Phe	Thr	His	Thr		
		370				375					380						
cct	cct	ctg	gat	cca	cag	gaa	ctg	gat	att	ctg	aaa	acc	gta	aag	gaa	1200	
Pro	Pro	Leu	Asp	Pro	Gln	Glu	Leu	Asp	Ile	Leu	Lys	Thr	Val	Lys	Glu		
385					390				395						400		
atc	aca	ggc	ttg	agc	tga											1218	
Ile	Thr	Gly	Leu	Ser													
				405													

<210> 10

<211> 405

<212> PRT

<213> Human (homo sapiens)

<400> 10

Met	Arg	Pro	Ser	Gly	Thr	Ala	Gly	Ala	Ala	Leu	Leu	Ala	Leu	Leu	Ala		
1				5				10							15		

Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln

20

25

30

Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
35 40 45

Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
100 105 110

Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
115 120 125

Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145 150 155 160

Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
165 170 175

Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
210 215 220

Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305 310 315 320

Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
340 345 350

Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
370 375 380

Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Leu Ser
405

<210> 11

<211> 2829

<212> DNA

<213> EE(homo sapiens)

<220>

<221> CDS

<222> (1)..(2826)

<223>

<400> 11

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Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala	
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gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag cgt aat tat gtg	96
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Arg Asn Tyr Val	
20 25 30	
gtg aca gat cac ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat	144
Val Thr Asp His Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr	
35 40 45	
gag atg gag gaa gac ggc gtc cgc aag tgt aag aag tgc gaa ggg cct	192
Glu Met Glu Glu Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro	
50 55 60	
tgc cgc aaa gtg tgt aac gga ata ggt att ggt gaa ttt aaa gac tca	240
Cys Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser	
65 70 75 80	
ctc tcc ata aat gct acg aat att aaa cac ttc aaa aac tgc acc tcc	288
Leu Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser	
85 90 95	
atc agt ggc gat ctc cac atc ctg ccg gtg gca ttt agg ggt gac tcc	336
Ile Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser	
100 105 110	
ttc aca cat act cct cct ctg gat cca cag gaa ctg gat att ctg aaa	384
Phe Thr His Thr Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys	
115 120 125	
acc gta aag gaa atc aca ggg ttt ttg ctg att cag gct tgg cct gaa	432
Thr Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu	
130 135 140	
aac agg acg gac ctc cat gcc ttt gag aac cta gaa atc ata cgc ggc	480
Asn Arg Thr Asp Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly	
145 150 155 160	
agg acc aag caa cat ggt cag ttt tct ctt gca gtc gtc agc ctg aac	528
Arg Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn	
165 170 175	
ata aca tcc ttg gga tta cgc tcc ctc aag gag ata agt gat gga gat	576
Ile Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp	
180 185 190	
gtg ata att tca gga aac aaa aat ttg tgc tat gca aat aca ata aac	624
Val Ile Ile Ser Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn	
195 200 205	

tgg aaa aaa ctg ttt ggg acc tcc ggt cag aaa acc aaa att ata agc Trp Lys Lys Leu Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser 210 215 220	672
aac aga ggt gaa aac agc tgc aag gcc aca ggc cag gtc tgc cat gcc Asn Arg Gly Glu Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala 225 230 235 240	720
ttg tgc tcc ccc gag ggc tgc tgg ggc ccg gag ccc agg gac tgc gtc Leu Cys Ser Pro Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val 245 250 255	768
tct tgc cgg aat gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac Ser Cys Arg Asn Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn 260 265 270	816
ctt ctg gag ggt gag cca agg gag ttt gtg gag aac tct gag tgc ata Leu Leu Glu Gly Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile 275 280 285	864
cag tgc cac cca gag tgc ctg cct cag gcc atg aac atc acc tgc aca Gln Cys His Pro Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr 290 295 300	912
gga cgg gga cca gac aac tgt atc cag tgt gcc cac tac att gac ggc Gly Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly 305 310 315 320	960
ccc cac tgc gtc aag acc tgc ccg gca gga gtc atg gga gaa aac aac Pro His Cys Val Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn 325 330 335	1008
acc ctg gtc tgg aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc Thr Leu Val Trp Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys 340 345 350	1056
cat cca aac tgc acc tac gga tgc act ggg cca ggt ctt gaa ggc tgt His Pro Asn Cys Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys 355 360 365	1104
cca acg aat ggg cct aag atc ccg tcc atc gcc act ggg atg gtg ggg Pro Thr Asn Gly Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly 370 375 380	1152
gcc ctc ctc ttg ctg ctg gtg gtg gcc ctg ggg atc ggc ctc ttc atg Ala Leu Leu Leu Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met 385 390 395 400	1200
cga agg cgc cac atc gtt cgg aag cgc acg ctg cgg agg ctg ctg cag Arg Arg Arg His Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln 405 410 415	1248
gag agg gag ctt gtg gag cct ctt aca ccc agt gga gaa gct ccc aac Glu Arg Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn 420 425 430	1296

caa gct ctc ttg agg atc ttg aag gaa act gaa ttc aaa aag atc aaa Gln Ala Leu Leu Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys 435 440 445	1344
gtg ctg ggc tcc ggt gcg ttc ggc acg gtg tat aag gga ctc tgg atc Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile 450 455 460	1392
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tgc ctc ctg gac tat gtc cgg gaa cac aaa gac aat att ggc tcc cag Cys Leu Leu Asp Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln 530 535 540	1632
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gtg aaa aca ccg cag cat gtc aag atc aca gat ttt ggg ctg gcc aaa Val Lys Thr Pro Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys 580 585 590	1776
ctg ctg ggt gcg gaa gag aaa gaa tac cat gca gaa gga ggc aaa gtg Leu Leu Gly Ala Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val 595 600 605	1824
cct atc aag tgg atg gca ttg gaa tca att tta cac aga atc tat acc Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr 610 615 620	1872
cac cag agt gat gtc tgg agc tac ggg gtg acc gtt tgg gag ttg atg His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met 625 630 635 640	1920
acc ttt gga tcc aag cca tat gac gga atc cct gcc agc gag atc tcc Thr Phe Gly Ser Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser 645 650 655	1968
tcc atc ctg gag aaa gga gaa cgc ctc cct cag cca ccc ata tgt acc	2016

Ser	Ile	Leu	Glu	Lys	Gly	Glu	Arg	Leu	Pro	Gln	Pro	Pro	Ile	Cys	Thr		
			660					665					670				
atc	gat	gtc	tac	atg	atc	atg	gtc	aag	tgc	tgg	atg	ata	gac	gca	gat	2064	
Ile	Asp	Val	Tyr	Met	Ile	Met	Val	Lys	Cys	Trp	Met	Ile	Asp	Ala	Asp		
		675					680					685					
agt	cgc	cca	aag	ttc	cgt	gag	ttg	atc	atc	gaa	ttc	tcc	aaa	atg	gcc	2112	
Ser	Arg	Pro	Lys	Phe	Arg	Glu	Leu	Ile	Ile	Glu	Phe	Ser	Lys	Met	Ala		
	690					695				700							
cga	gac	ccc	cag	cgc	tac	ctt	gtc	att	cag	ggg	gat	gaa	aga	atg	cat	2160	
Arg	Asp	Pro	Gln	Arg	Tyr	Leu	Val	Ile	Gln	Gly	Asp	Glu	Arg	Met	His		
705					710					715					720		
ttg	cca	agt	cct	aca	gac	tcc	aac	ttc	tac	cgt	gcc	ctg	atg	gat	gaa	2208	
Leu	Pro	Ser	Pro	Thr	Asp	Ser	Asn	Phe	Tyr	Arg	Ala	Leu	Met	Asp	Glu		
				725					730					735			
gaa	gac	atg	gac	gac	gtg	gtg	gat	gcc	gac	gag	tac	ctc	atc	cca	cag	2256	
Glu	Asp	Met	Asp	Asp	Val	Val	Asp	Ala	Asp	Glu	Tyr	Leu	Ile	Pro	Gln		
			740					745					750				
cag	ggc	ttc	ttc	agc	agc	ccc	tcc	acg	tca	cgg	act	ccc	ctc	ctg	agc	2304	
Gln	Gly	Phe	Phe	Ser	Ser	Pro	Ser	Thr	Ser	Arg	Thr	Pro	Leu	Leu	Ser		
		755					760					765					
tct	ctg	agt	gca	acc	agc	aac	aat	tcc	acc	gtg	gct	tgc	att	gat	aga	2352	
Ser	Leu	Ser	Ala	Thr	Ser	Asn	Asn	Ser	Thr	Val	Ala	Cys	Ile	Asp	Arg		
	770					775					780						
aat	ggg	ctg	caa	agc	tgt	ccc	atc	aag	gaa	gac	agc	ttc	ttg	cag	cga	2400	
Asn	Gly	Leu	Gln	Ser	Cys	Pro	Ile	Lys	Glu	Asp	Ser	Phe	Leu	Gln	Arg		
785					790				795						800		
tac	agc	tca	gac	ccc	aca	ggc	gcc	ttg	act	gag	gac	agc	ata	gac	gac	2448	
Tyr	Ser	Ser	Asp	Pro	Thr	Gly	Ala	Leu	Thr	Glu	Asp	Ser	Ile	Asp	Asp		
				805					810					815			
acc	ttc	ctc	cca	gtg	cct	gaa	tac	ata	aac	cag	tcc	gtt	ccc	aaa	agg	2496	
Thr	Phe	Leu	Pro	Val	Pro	Glu	Tyr	Ile	Asn	Gln	Ser	Val	Pro	Lys	Arg		
			820					825					830				
ccc	gct	ggc	tct	gtg	cag	aat	cct	gtc	tat	cac	aat	cag	cct	ctg	aac	2544	
Pro	Ala	Gly	Ser	Val	Gln	Asn	Pro	Val	Tyr	His	Asn	Gln	Pro	Leu	Asn		
		835					840					845					
ccc	gcg	ccc	agc	aga	gac	cca	cac	tac	cag	gac	ccc	cac	agc	act	gca	2592	
Pro	Ala	Pro	Ser	Arg	Asp	Pro	His	Tyr	Gln	Asp	Pro	His	Ser	Thr	Ala		
	850					855					860						
gtg	ggc	aac	ccc	gag	tat	ctc	aac	act	gtc	cag	ccc	acc	tgt	gtc	aac	2640	
Val	Gly	Asn	Pro	Glu	Tyr	Leu	Asn	Thr	Val	Gln	Pro	Thr	Cys	Val	Asn		
865					870					875					880		
agc	aca	ttc	gac	agc	cct	gcc	cac	tgg	gcc	cag	aaa	ggc	agc	cac	caa	2688	
Ser	Thr	Phe	Asp	Ser	Pro	Ala	His	Trp	Ala	Gln	Lys	Gly	Ser	His	Gln		

	885	890	895	
att agc ctg gac aac cct gac tac cag cag gac ttc ttt ccc aag gaa				2736
Ile Ser Leu Asp Asn Pro Asp Tyr Gln Gln Asp Phe Phe Pro Lys Glu				
	900	905	910	
gcc aag cca aat ggc atc ttt aag ggc tcc aca gct gaa aat gca gaa				2784
Ala Lys Pro Asn Gly Ile Phe Lys Gly Ser Thr Ala Glu Asn Ala Glu				
	915	920	925	
tac cta agg gtc gcg cca caa agc agt gaa ttt att gga gca tga				2829
Tyr Leu Arg Val Ala Pro Gln Ser Ser Glu Phe Ile Gly Ala				
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<210> 12

<211> 942

<212> PRT

<213> Human(homo sapiens)

<400> 12

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Val Thr Asp His Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr				
	35	40	45	
Glu Met Glu Glu Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro				
	50	55	60	
Cys Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser				
	65	70	75	80
Leu Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser				
	85	90	95	
Ile Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser				
	100	105	110	
Phe Thr His Thr Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys				
	115	120	125	

Thr Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu
130 135 140

Asn Arg Thr Asp Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly
145 150 155 160

Arg Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn
165 170 175

Ile Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp
180 185 190

Val Ile Ile Ser Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn
195 200 205

Trp Lys Lys Leu Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser
210 215 220

Asn Arg Gly Glu Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala
225 230 235 240

Leu Cys Ser Pro Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val
245 250 255

Ser Cys Arg Asn Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn
260 265 270

Leu Leu Glu Gly Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile
275 280 285

Gln Cys His Pro Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr
290 295 300

Gly Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly
305 310 315 320

Pro His Cys Val Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn
325 330 335

Thr Leu Val Trp Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys
340 345 350

His Pro Asn Cys Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys
355 360 365

Pro Thr Asn Gly Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly
370 375 380

Ala Leu Leu Leu Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met
385 390 395 400

Arg Arg Arg His Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln
405 410 415

Glu Arg Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn
420 425 430

Gln Ala Leu Leu Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys
435 440 445

Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile
450 455 460

Pro Glu Gly Glu Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg
465 470 475 480

Glu Ala Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr
485 490 495

Val Met Ala Ser Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile
500 505 510

Cys Leu Thr Ser Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly
515 520 525

Cys Leu Leu Asp Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln
530 535 540

Tyr Leu Leu Asn Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu
545 550 555 560

Glu Asp Arg Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu
565 570 575

Val Lys Thr Pro Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys
580 585 590

Leu Leu Gly Ala Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val
595 600 605

Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr
610 615 620

His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met
625 630 635 640

Thr Phe Gly Ser Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser
645 650 655

Ser Ile Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr
660 665 670

Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp
675 680 685

Ser Arg Pro Lys Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala
690 695 700

Arg Asp Pro Gln Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His
705 710 715 720

Leu Pro Ser Pro Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu
725 730 735

Glu Asp Met Asp Asp Val Val Asp Ala Asp Glu Tyr Leu Ile Pro Gln
740 745 750

Gln Gly Phe Phe Ser Ser Pro Ser Thr Ser Arg Thr Pro Leu Leu Ser
755 760 765

Ser Leu Ser Ala Thr Ser Asn Asn Ser Thr Val Ala Cys Ile Asp Arg
770 775 780

Asn Gly Leu Gln Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg
785 790 795 800

Tyr Ser Ser Asp Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp Asp

805

810

815

Thr Phe Leu Pro Val Pro Glu Tyr Ile Asn Gln Ser Val Pro Lys Arg
 820 825 830

Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln Pro Leu Asn
 835 840 845

Pro Ala Pro Ser Arg Asp Pro His Tyr Gln Asp Pro His Ser Thr Ala
 850 855 860

Val Gly Asn Pro Glu Tyr Leu Asn Thr Val Gln Pro Thr Cys Val Asn
 865 870 875 880

Ser Thr Phe Asp Ser Pro Ala His Trp Ala Gln Lys Gly Ser His Gln
 885 890 895

Ile Ser Leu Asp Asn Pro Asp Tyr Gln Gln Asp Phe Phe Pro Lys Glu
 900 905 910

Ala Lys Pro Asn Gly Ile Phe Lys Gly Ser Thr Ala Glu Asn Ala Glu
 915 920 925

Tyr Leu Arg Val Ala Pro Gln Ser Ser Glu Phe Ile Gly Ala
 930 935 940

<210> 13

<211> 3633

<212> DNA

<213> Ð;Êó(Mus musculus)

<220>

<221> CDS

<222> (1)..(3630)

<223>

<400> 13

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Ala	Leu	Cys	Ala	Ala	Gly	Gly	Ala	Leu	Glu	Glu	Lys	Lys	Val	Cys	Gln		
			20					25					30				
ggc	aca	agt	aac	agg	ctc	acc	caa	ctg	ggc	act	ttt	gaa	gac	cac	ttt		144
Gly	Thr	Ser	Asn	Arg	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	Asp	His	Phe		
		35					40					45					
ctg	agc	ctg	cag	agg	atg	tac	aac	aac	tgt	gaa	gtg	gtc	ctt	ggg	aac		192
Leu	Ser	Leu	Gln	Arg	Met	Tyr	Asn	Asn	Cys	Glu	Val	Val	Leu	Gly	Asn		
	50					55				60							
ttg	gaa	att	acc	tat	gtg	caa	agg	aat	tac	gac	ctt	tcc	ttc	tta	aag		240
Leu	Glu	Ile	Thr	Tyr	Val	Gln	Arg	Asn	Tyr	Asp	Leu	Ser	Phe	Leu	Lys		
65					70				75						80		
acc	atc	cag	gag	gtg	gcc	ggc	tat	gtc	ctc	att	gcc	ctc	aac	acc	gtg		288
Thr	Ile	Gln	Glu	Val	Ala	Gly	Tyr	Val	Leu	Ile	Ala	Leu	Asn	Thr	Val		
				85				90						95			
gag	aga	atc	cct	ttg	gag	aac	ctg	cag	atc	atc	agg	gga	aat	gct	ctt		336
Glu	Arg	Ile	Pro	Leu	Glu	Asn	Leu	Gln	Ile	Ile	Arg	Gly	Asn	Ala	Leu		
			100					105					110				
tat	gaa	aac	acc	tat	gcc	tta	gcc	atc	ctg	tcc	aac	tat	ggg	aca	aac		384
Tyr	Glu	Asn	Thr	Tyr	Ala	Leu	Ala	Ile	Leu	Ser	Asn	Tyr	Gly	Thr	Asn		
		115					120					125					
aga	act	ggg	ctt	agg	gaa	ctg	ccc	atg	cgg	aac	tta	cag	gaa	atc	ctg		432
Arg	Thr	Gly	Leu	Arg	Glu	Leu	Pro	Met	Arg	Asn	Leu	Gln	Glu	Ile	Leu		
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att	ggg	gct	gtg	cga	ttc	agc	aac	aac	ccc	atc	ctc	tgc	aat	atg	gat		480
Ile	Gly	Ala	Val	Arg	Phe	Ser	Asn	Asn	Pro	Ile	Leu	Cys	Asn	Met	Asp		
145				150					155						160		
act	atc	cag	tgg	agg	gac	atc	gtc	caa	aac	gtc	ttt	atg	agc	aac	atg		528
Thr	Ile	Gln	Trp	Arg	Asp	Ile	Val	Gln	Asn	Val	Phe	Met	Ser	Asn	Met		
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tca	atg	gac	tta	cag	agc	cat	ccg	agc	agt	tgc	ccc	aaa	tgt	gat	cca		576
Ser	Met	Asp	Leu	Gln	Ser	His	Pro	Ser	Ser	Cys	Pro	Lys	Cys	Asp	Pro		
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agc	tgt	ccc	aat	gga	agc	tgc	tgg	gga	gga	gga	gag	gag	aac	tgc	cag		624
Ser	Cys	Pro	Asn	Gly	Ser	Cys	Trp	Gly	Gly	Gly	Glu	Glu	Asn	Cys	Gln		
		195					200					205					
aaa	ttg	acc	aaa	atc	atc	tgt	gcc	cag	caa	tgt	tcc	cat	cgc	tgt	cgt		672
Lys	Leu	Thr	Lys	Ile	Ile	Cys	Ala	Gln	Gln	Cys	Ser	His	Arg	Cys	Arg		
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Gly	Arg	Ser	Pro	Ser	Asp	Cys	Cys	His	Asn	Gln	Cys	Ala	Ala	Gly	Cys		

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Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp	245	250	255	
gag gcc aca tgc aaa gac acc tgc cca cca ctc atg ctg tac aac ccc				816
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro	260	265	270	
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Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly	275	280	285	
gcc acc tgt gtg aag aag tgc ccc cga aac tac gtg gtg aca gat cat				912
Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His	290	295	300	
ggc tca tgt gtc cga gcc tgt ggg cct gac tac tac gaa gtg gaa gaa				960
Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu	305	310	315	320
gat ggc atc cgc aag tgt aaa aaa tgt gat ggg ccc tgt cgc aaa gtt				1008
Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val	325	330	335	
tgt aat ggc ata ggc att ggt gaa ttt aaa gac aca ctc tcc ata aat				1056
Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn	340	345	350	
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Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp	355	360	365	
ctt cac atc ctg cca gtg gcc ttt aag ggg gat tct ttc acg cgc act				1152
Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr	370	375	380	
cct cct cta gac cca cga gaa cta gaa att cta aaa acc gta aag gaa				1200
Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu	385	390	395	400
ata aca ggc ttt ttg ctg att cag gct tgg cct gat aac tgg act gac				1248
Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp	405	410	415	
ctc cat gct ttc gag aac cta gaa ata ata cgt ggc aga aca aag caa				1296
Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln	420	425	430	
cat ggt cag ttt tct ttg gcg gtc gtt ggc ctg aac atc aca tca ctg				1344
His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu	435	440	445	
ggg ctg cgt tcc ctc aag gag atc agt gat ggg gat gtg atc att tct				1392
Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser	450	455	460	

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aaa gac tgc aag gcc gtg aac cac gtc tgc aat cct tta tgc tcc tcg Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser 500 505 510	1536
gaa ggc tgc tgg ggc cct gag ccc agg gac tgt gtc tcc tgc cag aat Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn 515 520 525	1584
gtg agc aga ggc agg gag tgc gtg gag aaa tgc aac atc ctg gag ggg Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly 530 535 540	1632
gaa cca agg gag ttt gtg gaa aat tct gaa tgc atc cag tgc cat cca Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro 545 550 555 560	1680
gaa tgt ctg ccc cag gcc atg aac atc acc tgt aca ggc agg ggg cca Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro 565 570 575	1728
gac aac tgc atc cag tgt gcc cac tac att gat ggc cca cac tgt gtc Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val 580 585 590	1776
aag acc tgc cca gct ggc atc atg gga gag aac aac act ctg gtc tgg Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp 595 600 605	1824
aag tat gca gat gcc aat aat gtc tgc cac cta tgc cac gcc aac tgt Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys 610 615 620	1872
acc tat gga tgt gct ggg cca ggt ctt caa gga tgt gaa gtg tgg cca Thr Tyr Gly Cys Ala Gly Pro Gly Leu Gln Gly Cys Glu Val Trp Pro 625 630 635 640	1920
tct ggg cca aag ata cca tct att gcc act ggg att gtg ggt ggc ctc Ser Gly Pro Lys Ile Pro Ser Ile Ala Thr Gly Ile Val Gly Gly Leu 645 650 655	1968
ctc ttc ata gtg gtg gtg gcc ctt ggg att ggc cta ttc atg cga aga Leu Phe Ile Val Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg 660 665 670	2016
cgt cac att gtt cga aag cgt aca cta cgc cgc ctg ctt caa gag aga Arg His Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg 675 680 685	2064

gag ctc gtg gaa cct ctc aca ccc agc gga gaa gct cca aac caa gcc Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala 690 695 700	2112
cac ttg agg ata tta aag gaa aca gaa ttc aaa aag atc aaa gtt ctg His Leu Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu 705 710 715 720	2160
ggt tcg gga gca ttt ggc aca gtg tat aag ggt ctc tgg atc cca gaa Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu 725 730 735	2208
ggt gag aaa gta aaa atc ccg gtg gcc atc aag gag tta aga gaa gcc Gly Glu Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala 740 745 750	2256
aca tct cca aaa gcc aac aaa gaa atc ctt gac gaa gcc tat gtg atg Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met 755 760 765	2304
gct agt gtg gac aac cct cat gta tgc cgc ctc ctg ggc atc tgt ctg Ala Ser Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu 770 775 780	2352
acc tcc act gtc cag ctc att aca cag ctc atg ccc tac ggt tgc ctc Thr Ser Thr Val Gln Leu Ile Thr Gln Leu Met Pro Tyr Gly Cys Leu 785 790 795 800	2400
ctg gac tac gtc cga gaa cac aag gac aac att ggc tcc cag tac ctc Leu Asp Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu 805 810 815	2448
ctc aac tgg tgt gtg cag att gca aag ggc atg aac tac ctg gaa gat Leu Asn Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp 820 825 830	2496
cgg cgt ttg gtg cac cgt gac ttg gca gcc agg aat gta ctg gtg aag Arg Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys 835 840 845	2544
aca cca cag cat gtc aag atc aca gat ttt ggg ctg gcc aaa ctg ctt Thr Pro Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu 850 855 860	2592
ggt gct gaa gag aaa gaa tat cat gcc gag ggg ggc aaa gtg cct atc Gly Ala Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile 865 870 875 880	2640
aag tgg atg gct ttg gaa tca att tta cac cga att tat aca cac caa Lys Trp Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln 885 890 895	2688
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Leu	Glu	Lys	Gly	Glu	Arg	Leu	Pro	Gln	Pro	Pro	Ile	Cys	Thr	Ile	Asp		
		930					935				940						
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Val	Tyr	Met	Ile	Met	Val	Lys	Cys	Trp	Met	Ile	Asp	Ala	Asp	Ser	Arg		
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cca	aag	ttc	cga	gag	ttg	att	ctt	gaa	ttc	tcc	aaa	atg	gcc	cga	gac		2928
Pro	Lys	Phe	Arg	Glu	Leu	Ile	Leu	Glu	Phe	Ser	Lys	Met	Ala	Arg	Asp		
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cca	cag	cgc	tac	ctt	gtt	atc	cag	ggg	gat	gaa	aga	atg	cat	ttg	cca		2976
Pro	Gln	Arg	Tyr	Leu	Val	Ile	Gln	Gly	Asp	Glu	Arg	Met	His	Leu	Pro		
			980					985					990				
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Ser	Pro	Thr	Asp	Ser	Asn	Phe	Tyr	Arg	Ala	Leu	Met	Asp	Glu	Glu	Asp		
			995				1000					1005					
atg	gag	gat	gta	gtt	gat	gct	gat	gag	tat	ctt	acc	cca	cag	caa			3069
Met	Glu	Asp	Val	Val	Asp	Ala	Asp	Glu	Tyr	Leu	Thr	Pro	Gln	Gln			
		1010				1015					1020						
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Gly	Phe	Phe	Asn	Ser	Pro	Ser	Thr	Ser	Arg	Thr	Pro	Leu	Leu	Ser			
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Ser	Leu	Ser	Ala	Thr	Ser	Asn	Asn	Ser	Thr	Val	Ala	Cys	Ile	Asn			
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Arg	Asn	Gly	Ser	Cys	Arg	Val	Lys	Glu	Asp	Ala	Phe	Leu	Gln	Arg			
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Tyr	Ser	Ser	Asp	Pro	Thr	Gly	Ala	Val	Thr	Glu	Asp	Asn	Ile	Asp			
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gac	gca	ttc	ctc	cct	gta	cct	gaa	tat	gta	aac	caa	tct	gtt	ccc			3294
Asp	Ala	Phe	Leu	Pro	Val	Pro	Glu	Tyr	Val	Asn	Gln	Ser	Val	Pro			
		1085				1090					1095						
aag	agg	cca	gca	ggc	tct	gtg	cag	aac	cct	gtc	tat	cac	aat	cag			3339
Lys	Arg	Pro	Ala	Gly	Ser	Val	Gln	Asn	Pro	Val	Tyr	His	Asn	Gln			
		1100				1105					1110						
ccc	ctg	cat	cca	gct	cct	gga	aga	gac	ctg	cat	tat	caa	aat	ccc			3384
Pro	Leu	His	Pro	Ala	Pro	Gly	Arg	Asp	Leu	His	Tyr	Gln	Asn	Pro			
		1115				1120					1125						
cac	agc	aat	gca	gtg	ggc	aac	cct	gag	tat	ctc	aac	act	gcc	cag			3429
His	Ser	Asn	Ala	Val	Gly	Asn	Pro	Glu	Tyr	Leu	Asn	Thr	Ala	Gln			

Gly Ser Lys Pro Tyr Asp Gly Ile Pro Ala Ser Asp Ile Ser Ser Ile	
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gtc tac atg atc atg gtc aag tgc tgg atg ata gat gct gat agc cgc	2880
Val Tyr Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg	
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cca aag ttc cga gag ttg att ctt gaa ttc tcc aaa atg gcc cga gac	2928
Pro Lys Phe Arg Glu Leu Ile Leu Glu Phe Ser Lys Met Ala Arg Asp	
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Pro Gln Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro	
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Ser Pro Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp	
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aga aat ggg agc tgc cgt gtc aaa gaa gac gcc ttc ttg cag cgg	3204
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Tyr Ser Ser Asp Pro Thr Gly Ala Val Thr Glu Asp Asn Ile Asp	
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Asp Ala Phe Leu Pro Val Pro Glu Tyr Val Asn Gln Ser Val Pro	
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aag agg cca gca ggc tct gtg cag aac cct gtc tat cac aat cag	3339
Lys Arg Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln	
1100 1105 1110	
ccc ctg cat cca gct cct gga aga gac ctg cat tat caa aat ccc	3384
Pro Leu His Pro Ala Pro Gly Arg Asp Leu His Tyr Gln Asn Pro	
1115 1120 1125	
cac agc aat gca gtg ggc aac cct gag tat ctc aac act gcc cag	3429
His Ser Asn Ala Val Gly Asn Pro Glu Tyr Leu Asn Thr Ala Gln	

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cct acc tgt ctc agt agt ggg	ttt aac agc cct gca	ctc tgg atc	3474
Pro Thr Cys Leu Ser Ser Gly	Phe Asn Ser Pro Ala	Leu Trp Ile	
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cag aaa ggc agt cac caa atg	agc cta gac aac cct	gac tac cag	3519
Gln Lys Gly Ser His Gln Met	Ser Leu Asp Asn Pro	Asp Tyr Gln	
1160	1165	1170	
cag gac ttc ttc ccc aag gaa	acc aag cca aat ggc	ata ttt aag	3564
Gln Asp Phe Phe Pro Lys Glu	Thr Lys Pro Asn Gly	Ile Phe Lys	
1175	1180	1185	
ggc ccc aca gct gaa aat gca	gag tac cta cgg gtg	gca cct cca	3609
Gly Pro Thr Ala Glu Asn Ala	Glu Tyr Leu Arg Val	Ala Pro Pro	
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Leu Ser Leu Gln Arg Met Tyr Asn Asn Cys Glu Val Val Leu Gly Asn
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Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu
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Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr Gly Thr Asn
115 120 125

Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys Asn Met Asp
145 150 155 160

Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met
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Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg
210 215 220

Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

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245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu
305 310 315 320

Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn
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Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr
370 375 380

Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu
485 490 495

Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys
610 615 620

Thr Tyr Gly Cys Ala Gly Pro Gly Leu Gln Gly Cys Glu Val Trp Pro
625 630 635 640

Ser Gly Pro Lys Ile Pro Ser Ile Ala Thr Gly Ile Val Gly Gly Leu
645 650 655

Leu Phe Ile Val Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg
660 665 670

Arg His Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg
675 680 685

Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala
690 695 700

His Leu Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu
705 710 715 720

Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu
725 730 735

Gly Glu Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala
740 745 750

Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met
755 760 765

Ala Ser Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu

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Leu Asp Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu				
	805		810	815
Leu Asn Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp				
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Arg Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys				
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Thr Pro Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu				
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Gly Ala Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile				
865		870		875 880
Lys Trp Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln				
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Ser Asp Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe				
	900		905	910
Gly Ser Lys Pro Tyr Asp Gly Ile Pro Ala Ser Asp Ile Ser Ser Ile				
	915		920	925
Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp				
	930		935	940
Val Tyr Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg				
945		950		955 960
Pro Lys Phe Arg Glu Leu Ile Leu Glu Phe Ser Lys Met Ala Arg Asp				
	965		970	975
Pro Gln Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro				
	980		985	990
Ser Pro Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp				
	995		1000	1005

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1040 1045 1050

Arg Asn Gly Ser Cys Arg Val Lys Glu Asp Ala Phe Leu Gln Arg
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Tyr Ser Ser Asp Pro Thr Gly Ala Val Thr Glu Asp Asn Ile Asp
1070 1075 1080

Asp Ala Phe Leu Pro Val Pro Glu Tyr Val Asn Gln Ser Val Pro
1085 1090 1095

Lys Arg Pro Ala Gly Ser Val Gln Asn Pro Val Tyr His Asn Gln
1100 1105 1110

Pro Leu His Pro Ala Pro Gly Arg Asp Leu His Tyr Gln Asn Pro
1115 1120 1125

His Ser Asn Ala Val Gly Asn Pro Glu Tyr Leu Asn Thr Ala Gln
1130 1135 1140

Pro Thr Cys Leu Ser Ser Gly Phe Asn Ser Pro Ala Leu Trp Ile
1145 1150 1155

Gln Lys Gly Ser His Gln Met Ser Leu Asp Asn Pro Asp Tyr Gln
1160 1165 1170

Gln Asp Phe Phe Pro Lys Glu Thr Lys Pro Asn Gly Ile Phe Lys
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<220>

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<222> (1)..(1929)

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gcg	ctc	tgc	gcc	gca	ggt	ggg	gcg	ttg	gag	gaa	aag	aaa	gtc	tgc	caa	96
Ala	Leu	Cys	Ala	Ala	Gly	Gly	Ala	Leu	Glu	Glu	Lys	Lys	Val	Cys	Gln	
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ggc	aca	agt	aac	agg	ctc	acc	caa	ctg	ggc	act	ttt	gaa	gac	cac	ttt	144
Gly	Thr	Ser	Asn	Arg	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	Asp	His	Phe	
		35				40					45					

ctg	agc	ctg	cag	agg	atg	tac	aac	aac	tgt	gaa	gtg	gtc	ctt	ggg	aac	192
Leu	Ser	Leu	Gln	Arg	Met	Tyr	Asn	Asn	Cys	Glu	Val	Val	Leu	Gly	Asn	
	50					55					60					

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65					70				75					80		

acc	atc	cag	gag	gtg	gcc	ggc	tat	gtc	ctc	att	gcc	ctc	aac	acc	gtg	288
Thr	Ile	Gln	Glu	Val	Ala	Gly	Tyr	Val	Leu	Ile	Ala	Leu	Asn	Thr	Val	
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gag	aga	atc	cct	ttg	gag	aac	ctg	cag	atc	atc	agg	gga	aat	gct	ctt	336
Glu	Arg	Ile	Pro	Leu	Glu	Asn	Leu	Gln	Ile	Ile	Arg	Gly	Asn	Ala	Leu	
			100				105						110			

tat	gaa	aac	acc	tat	gcc	tta	gcc	atc	ctg	tcc	aac	tat	ggg	aca	aac	384
Tyr	Glu	Asn	Thr	Tyr	Ala	Leu	Ala	Ile	Leu	Ser	Asn	Tyr	Gly	Thr	Asn	
		115				120						125				

aga	act	ggg	ctt	agg	gaa	ctg	ccc	atg	cgg	aac	tta	cag	gaa	atc	ctg	432
Arg	Thr	Gly	Leu	Arg	Glu	Leu	Pro	Met	Arg	Asn	Leu	Gln	Glu	Ile	Leu	
	130					135					140					

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gag gcc aca tgc aaa gac acc tgc cca cca ctc atg ctg tac aac ccc Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro 260 265 270	816
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ata aca ggc ttt ttg ctg att cag gct tgg cct gat aac tgg act gac Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp 405 410 415	1248
ctc cat gct ttc gag aac cta gaa ata ata cgt ggc aga aca aag caa Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln 420 425 430	1296
cat ggt cag ttt tct ttg gcg gtc gtt ggc ctg aac atc aca tca ctg His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu 435 440 445	1344
ggg ctg cgt tcc ctc aag gag atc agt gat ggg gat gtg atc att tct Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser 450 455 460	1392
gga aac cga aat ttg tgc tac gca aac aca ata aac tgg aaa aaa ctc Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu 465 470 475 480	1440
ttc ggg aca ccc aat cag aaa acc aaa atc atg aac aac aga gct gag Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu 485 490 495	1488
aaa gac tgc aag gcc gtg aac cac gtc tgc aat cct tta tgc tcc tcg Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser 500 505 510	1536
gaa ggc tgc tgg ggc cct gag ccc agg gac tgt gtc tcc tgc cag aat Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn 515 520 525	1584
gtg agc aga ggc agg gag tgc gtg gag aaa tgc aac atc ctg gag ggg Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly 530 535 540	1632
gaa cca agg gag ttt gtg gaa aat tct gaa tgc atc cag tgc cat cca Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro 545 550 555 560	1680
gaa tgt ctg ccc cag gcc atg aac atc acc tgt aca ggc agg ggg cca Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro 565 570 575	1728
gac aac tgc atc cag tgt gcc cac tac att gat ggc cca cac tgt gtc Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val 580 585 590	1776
aag acc tgc cca gct ggc atc atg gga gag aac aac act ctg gtc tgg	1824

Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp
 595 600 605

aag tat gca gat gcc aat aat gtc tgc cac cta tgc cac gcc aac tgt 1872
 Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys
 610 615 620

acc tat gga gta atg gtt cct gaa atg ttg ctc caa agt atc att tta 1920
 Thr Tyr Gly Val Met Val Pro Glu Met Leu Leu Gln Ser Ile Ile Leu
 625 630 635 640

aaa cct att tga 1932
 Lys Pro Ile

<210> 16

<211> 643

<212> PRT

<213> Đ;ÊÓ(Mus musculus)

<400> 16

Met Arg Pro Ser Gly Thr Ala Arg Thr Thr Leu Leu Val Leu Leu Thr
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Ala Leu Cys Ala Ala Gly Gly Ala Leu Glu Glu Lys Lys Val Cys Gln
 20 25 30

Gly Thr Ser Asn Arg Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
 35 40 45

Leu Ser Leu Gln Arg Met Tyr Asn Asn Cys Glu Val Val Leu Gly Asn
 50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
 65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
 85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu
 100 105 110

Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr Gly Thr Asn

115

120

125

Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
 130 135 140

Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys Asn Met Asp
 145 150 155 160

Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met
 165 170 175

Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro
 180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu Asn Cys Gln
 195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg
 210 215 220

Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
 225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp
 245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
 260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
 275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
 290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu
 305 310 315 320

Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val
 325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn
 340 345 350

Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr
370 375 380

Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu
485 490 495

Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys
610 615 620

Thr Tyr Gly Val Met Val Pro Glu Met Leu Leu Gln Ser Ile Ile Leu
625 630 635 640

Lys Pro Ile

<210> 17

<211> 1968

<212> DNA

<213> Ð;Éó (Mus musculus)

<220>

<221> CDS

<222> (1)..(1965)

<223>

<400> 17

atg	cga	ccc	tca	ggg	acc	gcg	aga	acc	aca	ctg	ctg	gtg	ctg	ctg	acc	48
Met	Arg	Pro	Ser	Gly	Thr	Ala	Arg	Thr	Thr	Leu	Leu	Val	Leu	Leu	Thr	
1				5				10						15		

gcg	ctc	tgc	gcc	gca	ggt	ggg	gcg	ttg	gag	gaa	aag	aaa	gtc	tgc	caa	96
Ala	Leu	Cys	Ala	Ala	Gly	Gly	Ala	Leu	Glu	Glu	Lys	Lys	Val	Cys	Gln	
			20				25						30			

ggc	aca	agt	aac	agg	ctc	acc	caa	ctg	ggc	act	ttt	gaa	gac	cac	ttt	144
Gly	Thr	Ser	Asn	Arg	Leu	Thr	Gln	Leu	Gly	Thr	Phe	Glu	Asp	His	Phe	
		35					40					45				

ctg	agc	ctg	cag	agg	atg	tac	aac	aac	tgt	gaa	gtg	gtc	ctt	ggg	aac	192
Leu	Ser	Leu	Gln	Arg	Met	Tyr	Asn	Asn	Cys	Glu	Val	Val	Leu	Gly	Asn	
		50				55					60					

ttg gaa att acc tat gtg caa agg aat tac gac ctt tcc ttc tta aag Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys 65 70 75 80	240
acc atc cag gag gtg gcc ggc tat gtc ctc att gcc ctc aac acc gtg Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val 85 90 95	288
gag aga atc cct ttg gag aac ctg cag atc atc agg gga aat gct ctt Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu 100 105 110	336
tat gaa aac acc tat gcc tta gcc atc ctg tcc aac tat ggg aca aac Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr Gly Thr Asn 115 120 125	384
aga act ggg ctt agg gaa ctg ccc atg cgg aac tta cag gaa atc ctg Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu 130 135 140	432
att ggt gct gtg cga ttc agc aac aac ccc atc ctc tgc aat atg gat Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys Asn Met Asp 145 150 155 160	480
act atc cag tgg agg gac atc gtc caa aac gtc ttt atg agc aac atg Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met 165 170 175	528
tca atg gac tta cag agc cat ccg agc agt tgc ccc aaa tgt gat cca Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro 180 185 190	576
agc tgt ccc aat gga agc tgc tgg gga gga gga gag gag aac tgc cag Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu Asn Cys Gln 195 200 205	624
aaa ttg acc aaa atc atc tgt gcc cag caa tgt tcc cat cgc tgt cgt Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg 210 215 220	672
ggc agg tcc ccc agt gac tgc tgc cac aac caa tgt gct gcg ggg tgt Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys 225 230 235 240	720
aca ggg ccc cga gag agt gac tgt ctg gtc tgc caa aag ttc caa gat Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp 245 250 255	768
gag gcc aca tgc aaa gac acc tgc cca cca ctc atg ctg tac aac ccc Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro 260 265 270	816
acc acc tat cag atg gat gtc aac cct gaa ggg aag tac agc ttt ggt Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly 275 280 285	864

gcc acc tgt gtg aag aag tgc ccc cga aac tac gtg gtg aca gat cat Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His 290 295 300	912
ggc tca tgt gtc cga gcc tgt ggg cct gac tac tac gaa gtg gaa gaa Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu 305 310 315 320	960
gat ggc atc cgc aag tgt aaa aaa tgt gat ggg ccc tgt cgc aaa gtt Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val 325 330 335	1008
tgt aat ggc ata ggc att ggt gaa ttt aaa gac aca ctc tcc ata aat Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn 340 345 350	1056
gct aca aac atc aaa cac ttc aaa tac tgc act gcc atc agc ggg gac Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp 355 360 365	1104
ctt cac atc ctg cca gtg gcc ttt aag ggg gat tct ttc acg cgc act Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr 370 375 380	1152
cct cct cta gac cca cga gaa cta gaa att cta aaa acc gta aag gaa Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu 385 390 395 400	1200
ata aca ggc ttt ttg ctg att cag gct tgg cct gat aac tgg act gac Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp 405 410 415	1248
ctc cat gct ttc gag aac cta gaa ata ata cgt ggc aga aca aag caa Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln 420 425 430	1296
cat ggt cag ttt tct ttg gcg gtc gtt ggc ctg aac atc aca tca ctg His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu 435 440 445	1344
ggg ctg cgt tcc ctc aag gag atc agt gat ggg gat gtg atc att tct Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser 450 455 460	1392
gga aac cga aat ttg tgc tac gca aac aca ata aac tgg aaa aaa ctc Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu 465 470 475 480	1440
ttc ggg aca ccc aat cag aaa acc aaa atc atg aac aac aga gct gag Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu 485 490 495	1488
aaa gac tgc aag gcc gtg aac cac gtc tgc aat cct tta tgc tcc tcg Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser 500 505 510	1536
gaa ggc tgc tgg ggc cct gag ccc agg gac tgt gtc tcc tgc cag aat	1584

Glu	Gly	Cys	Trp	Gly	Pro	Glu	Pro	Arg	Asp	Cys	Val	Ser	Cys	Gln	Asn		
		515					520					525					
gtg	agc	aga	ggc	agg	gag	tgc	gtg	gag	aaa	tgc	aac	atc	ctg	gag	ggg	1632	
Val	Ser	Arg	Gly	Arg	Glu	Cys	Val	Glu	Lys	Cys	Asn	Ile	Leu	Glu	Gly		
		530				535					540						
gaa	cca	agg	gag	ttt	gtg	gaa	aat	tct	gaa	tgc	atc	cag	tgc	cat	cca	1680	
Glu	Pro	Arg	Glu	Phe	Val	Glu	Asn	Ser	Glu	Cys	Ile	Gln	Cys	His	Pro		
545					550					555					560		
gaa	tgt	ctg	ccc	cag	gcc	atg	aac	atc	acc	tgt	aca	ggc	agg	ggg	cca	1728	
Glu	Cys	Leu	Pro	Gln	Ala	Met	Asn	Ile	Thr	Cys	Thr	Gly	Arg	Gly	Pro		
				565					570					575			
gac	aac	tgc	atc	cag	tgt	gcc	cac	tac	att	gat	ggc	cca	cac	tgt	gtc	1776	
Asp	Asn	Cys	Ile	Gln	Cys	Ala	His	Tyr	Ile	Asp	Gly	Pro	His	Cys	Val		
			580					585					590				
aag	acc	tgc	cca	gct	ggc	atc	atg	gga	gag	aac	aac	act	ctg	gtc	tgg	1824	
Lys	Thr	Cys	Pro	Ala	Gly	Ile	Met	Gly	Glu	Asn	Asn	Thr	Leu	Val	Trp		
		595					600					605					
aag	tat	gca	gat	gcc	aat	aat	gtc	tgc	cac	cta	tgc	cac	gcc	aac	tgt	1872	
Lys	Tyr	Ala	Asp	Ala	Asn	Asn	Val	Cys	His	Leu	Cys	His	Ala	Asn	Cys		
	610					615					620						
acc	tat	gga	tgt	gct	ggg	cca	ggg	ctt	caa	gga	tgt	gaa	gtg	tgg	cca	1920	
Thr	Tyr	Gly	Cys	Ala	Gly	Pro	Gly	Leu	Gln	Gly	Cys	Glu	Val	Trp	Pro		
625					630					635					640		
tct	ggg	tac	gtt	caa	tgg	cag	tgg	atc	tta	aag	acc	ttt	tgg	atc	taa	1968	
Ser	Gly	Tyr	Val	Gln	Trp	Gln	Trp	Ile	Leu	Lys	Thr	Phe	Trp	Ile			
				645				650						655			

<210> 18

<211> 655

<212> PRT

<213> Ð;Êó (Mus musculus)

<400> 18

Met	Arg	Pro	Ser	Gly	Thr	Ala	Arg	Thr	Thr	Leu	Leu	Val	Leu	Leu	Thr
1				5					10					15	

Ala	Leu	Cys	Ala	Ala	Gly	Gly	Ala	Leu	Glu	Glu	Lys	Lys	Val	Cys	Gln
			20					25					30		

Gly Thr Ser Asn Arg Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe

35

40

45

Leu Ser Leu Gln Arg Met Tyr Asn Asn Cys Glu Val Val Leu Gly Asn
50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu
100 105 110

Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr Gly Thr Asn
115 120 125

Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys Asn Met Asp
145 150 155 160

Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met
165 170 175

Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg
210 215 220

Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp
245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu
305 310 315 320

Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val
325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn
340 345 350

Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp
355 360 365

Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr
370 375 380

Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu
385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp
405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu
435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
450 455 460

Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465 470 475 480

Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu
485 490 495

Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser
500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn
515 520 525

Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly
530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
580 585 590

Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp
595 600 605

Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys
610 615 620

Thr Tyr Gly Cys Ala Gly Pro Gly Leu Gln Gly Cys Glu Val Trp Pro
625 630 635 640

Ser Gly Tyr Val Gln Trp Gln Trp Ile Leu Lys Thr Phe Trp Ile
645 650 655

<210> 19

<211> 1962

<212> DNA

<213> ¼

<220>

<221> CDS

<222> (1)..(1962)

<223>

<400> 19

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Met Gly Val Arg Ser Pro Leu Ser Ala Ser Gly Pro Arg Gly Ala Ala	
1 5 10 15	
gtc ctg gtg cta ctg ctg ctg ggc gtc gcg ctg tgt tcc gcc gtg gag	96
Val Leu Val Leu Leu Leu Leu Gly Val Ala Leu Cys Ser Ala Val Glu	
20 25 30	
gag aag aaa gtt tgt caa ggg aca aat aac aag ttg acc cag ctg ggg	144
Glu Lys Lys Val Cys Gln Gly Thr Asn Asn Lys Leu Thr Gln Leu Gly	
35 40 45	
cac gtg gaa gac cat ttc acc agc ctg cag aga atg tac aac aac tgc	192
His Val Glu Asp His Phe Thr Ser Leu Gln Arg Met Tyr Asn Asn Cys	
50 55 60	
gaa gtg gta ctg agt aac ctg gag att acc tac gtg gag cat aat cgc	240
Glu Val Val Leu Ser Asn Leu Glu Ile Thr Tyr Val Glu His Asn Arg	
65 70 75 80	
gat ctc acc ttc ctt aag acc ata cag gag gtt gca ggc tat gtg ctc	288
Asp Leu Thr Phe Leu Lys Thr Ile Gln Glu Val Ala Gly Tyr Val Leu	
85 90 95	
att gcg ctt aac atg gtg gac gtc att ccc tta gaa aac ctc cag att	336
Ile Ala Leu Asn Met Val Asp Val Ile Pro Leu Glu Asn Leu Gln Ile	
100 105 110	
atc cga ggg aat gtg ctt tat gac aac tct ttt gcc ctg gca gtt tta	384
Ile Arg Gly Asn Val Leu Tyr Asp Asn Ser Phe Ala Leu Ala Val Leu	
115 120 125	
tcc aat tac cac atg aat aaa acc cag gga ctt cga gag ctg cca atg	432
Ser Asn Tyr His Met Asn Lys Thr Gln Gly Leu Arg Glu Leu Pro Met	
130 135 140	
aaa cgg cta tca gaa att ctc aat gga ggt gtt aaa atc agc aac aac	480
Lys Arg Leu Ser Glu Ile Leu Asn Gly Gly Val Lys Ile Ser Asn Asn	
145 150 155 160	
ccc aaa ctg tgc aac atg gac act gtt ctc tgg aat gac atc att gat	528
Pro Lys Leu Cys Asn Met Asp Thr Val Leu Trp Asn Asp Ile Ile Asp	
165 170 175	
aca agc agg aag cct ctc aca gta ctt gac ttt gca agc aat ctt tct	576
Thr Ser Arg Lys Pro Leu Thr Val Leu Asp Phe Ala Ser Asn Leu Ser	
180 185 190	
tct tgt cca aaa tgc cat ccg aac tgc aca gaa gac cac tgc tgg ggt	624
Ser Cys Pro Lys Cys His Pro Asn Cys Thr Glu Asp His Cys Trp Gly	
195 200 205	

gct ggt gaa cag aac tgc cag act tta aca aaa gtc atc tgt gcc cag Ala Gly Glu Gln Asn Cys Gln Thr Leu Thr Lys Val Ile Cys Ala Gln 210 215 220	672
caa tgc tct ggc cgg tgc aga gga aag gtg ccc agt gac tgc tgc cac Gln Cys Ser Gly Arg Cys Arg Gly Lys Val Pro Ser Asp Cys Cys His 225 230 235 240	720
aat cag tgt gct gca ggg tgc aca gga cct cgg gag agt gac tgc ctg Asn Gln Cys Ala Ala Gly Cys Thr Gly Pro Arg Glu Ser Asp Cys Leu 245 250 255	768
gca tgc cgc aag ttt cgg gat gat gct acc tgc aag gac aca tgt ccc Ala Cys Arg Lys Phe Arg Asp Asp Ala Thr Cys Lys Asp Thr Cys Pro 260 265 270	816
cca ctg gtc ctc tat aac ccc acc acc tat caa atg gat gtc aac cct Pro Leu Val Leu Tyr Asn Pro Thr Thr Tyr Gln Met Asp Val Asn Pro 275 280 285	864
gag gga aaa tac agc ttt gga gcc act tgt gtg agg gaa tgt cca cac Glu Gly Lys Tyr Ser Phe Gly Ala Thr Cys Val Arg Glu Cys Pro His 290 295 300	912
aac tat gtg gtg aca gat cat ggc tcc tgc gtt cgc tcg tgt aat act Asn Tyr Val Val Thr Asp His Gly Ser Cys Val Arg Ser Cys Asn Thr 305 310 315 320	960
gat act tac gaa gtg gaa gaa aat ggt gtt cgg aag tgt aaa aaa tgt Asp Thr Tyr Glu Val Glu Glu Asn Gly Val Arg Lys Cys Lys Lys Cys 325 330 335	1008
gat ggg cta tgt agc aaa gtg tgc aat ggc att gga ata ggt gaa ctt Asp Gly Leu Cys Ser Lys Val Cys Asn Gly Ile Gly Ile Gly Glu Leu 340 345 350	1056
aaa ggg atc cta tcc ata aat gcc aca aac atc gac tcc ttc aaa aac Lys Gly Ile Leu Ser Ile Asn Ala Thr Asn Ile Asp Ser Phe Lys Asn 355 360 365	1104
tgt acg aag atc aat ggg gat gtc agc att ctt cct gtt gca ttt cta Cys Thr Lys Ile Asn Gly Asp Val Ser Ile Leu Pro Val Ala Phe Leu 370 375 380	1152
ggg gat gcc ttc aca aag aca cta ccc ctt gac cct aag aag ctg gat Gly Asp Ala Phe Thr Lys Thr Leu Pro Leu Asp Pro Lys Lys Leu Asp 385 390 395 400	1200
gtc ttt aga aca gtc aaa gaa ata tca gga ttt ttg ttg att cag gcc Val Phe Arg Thr Val Lys Glu Ile Ser Gly Phe Leu Leu Ile Gln Ala 405 410 415	1248
tgg cct gat aat gct act gat ctc tat gct ttt gaa aat ctg gag att Trp Pro Asp Asn Ala Thr Asp Leu Tyr Ala Phe Glu Asn Leu Glu Ile 420 425 430	1296
atc cga ggc cga acc aag cag cac ggc cag tat tcc ctt gct gtt gtt	1344

Ile	Arg	Gly	Arg	Thr	Lys	Gln	His	Gly	Gln	Tyr	Ser	Leu	Ala	Val	Val		
		435					440					445					
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Thr	Met	Asn	Trp	Arg	Ser	Leu	Phe	Ala	Thr	Gln	Ser	Gln	Lys	Thr	Lys		
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Cys	Asp	Pro	Leu	Cys	Ser	Asp	Val	Gly	Cys	Trp	Gly	Pro	Gly	Pro	Phe		
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His	Cys	Phe	Ser	Cys	Arg	Phe	Phe	Ser	Arg	Gln	Lys	Glu	Cys	Val	Lys		
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Gln	Cys	Asn	Ile	Leu	Gln	Gly	Glu	Pro	Arg	Glu	Phe	Glu	Arg	Asp	Ser		
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Lys	Cys	Leu	Pro	Cys	His	Ser	Glu	Cys	Leu	Val	Gln	Asn	Ser	Thr	Ala		
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Ala	His	Phe	Ile	Asp	Gly	Pro	His	Cys	Val	Lys	Ala	Cys	Pro	Ala	Gly		
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gtc	ctg	ggt	gag	aat	gat	acc	ctg	gtc	tgg	aag	tat	gca	gat	gcc	aat	1872	
Val	Leu	Gly	Glu	Asn	Asp	Thr	Leu	Val	Trp	Lys	Tyr	Ala	Asp	Ala	Asn		
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gct	gtt	tgc	cag	ctc	tgc	cat	cca	aac	tgt	aca	cga	ggg	tgc	aaa	ggg	1920	
Ala	Val	Cys	Gln	Leu	Cys	His	Pro	Asn	Cys	Thr	Arg	Gly	Cys	Lys	Gly		
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cca	ggt	ctt	gaa	gga	tgt	cca	aat	ggc	tcc	aaa	act	cca	tct			1962	
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His Val Glu Asp His Phe Thr Ser Leu Gln Arg Met Tyr Asn Asn Cys
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Glu Val Val Leu Ser Asn Leu Glu Ile Thr Tyr Val Glu His Asn Arg
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Asp Leu Thr Phe Leu Lys Thr Ile Gln Glu Val Ala Gly Tyr Val Leu
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Ile Ala Leu Asn Met Val Asp Val Ile Pro Leu Glu Asn Leu Gln Ile
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Ile Arg Gly Asn Val Leu Tyr Asp Asn Ser Phe Ala Leu Ala Val Leu
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Ser Asn Tyr His Met Asn Lys Thr Gln Gly Leu Arg Glu Leu Pro Met
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Lys Arg Leu Ser Glu Ile Leu Asn Gly Gly Val Lys Ile Ser Asn Asn
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Pro Lys Leu Cys Asn Met Asp Thr Val Leu Trp Asn Asp Ile Ile Asp
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Thr Ser Arg Lys Pro Leu Thr Val Leu Asp Phe Ala Ser Asn Leu Ser
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Ser Cys Pro Lys Cys His Pro Asn Cys Thr Glu Asp His Cys Trp Gly
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Ala Gly Glu Gln Asn Cys Gln Thr Leu Thr Lys Val Ile Cys Ala Gln
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Gln Cys Ser Gly Arg Cys Arg Gly Lys Val Pro Ser Asp Cys Cys His
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Asn Gln Cys Ala Ala Gly Cys Thr Gly Pro Arg Glu Ser Asp Cys Leu
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Pro Leu Val Leu Tyr Asn Pro Thr Thr Tyr Gln Met Asp Val Asn Pro
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Glu Gly Lys Tyr Ser Phe Gly Ala Thr Cys Val Arg Glu Cys Pro His
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Asn Tyr Val Val Thr Asp His Gly Ser Cys Val Arg Ser Cys Asn Thr
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Asp Thr Tyr Glu Val Glu Glu Asn Gly Val Arg Lys Cys Lys Lys Cys
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Lys Gly Ile Leu Ser Ile Asn Ala Thr Asn Ile Asp Ser Phe Lys Asn
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Cys Thr Lys Ile Asn Gly Asp Val Ser Ile Leu Pro Val Ala Phe Leu
370 375 380

Gly Asp Ala Phe Thr Lys Thr Leu Pro Leu Asp Pro Lys Lys Leu Asp
385 390 395 400

Val Phe Arg Thr Val Lys Glu Ile Ser Gly Phe Leu Leu Ile Gln Ala
405 410 415

Trp Pro Asp Asn Ala Thr Asp Leu Tyr Ala Phe Glu Asn Leu Glu Ile
420 425 430

Ile Arg Gly Arg Thr Lys Gln His Gly Gln Tyr Ser Leu Ala Val Val
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Asn Leu Lys Ile Gln Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile Ser
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Asp Gly Asp Ile Ala Ile Met Lys Asn Lys Asn Leu Cys Tyr Ala Asp
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Thr Met Asn Trp Arg Ser Leu Phe Ala Thr Gln Ser Gln Lys Thr Lys
485 490 495

Ile Ile Gln Asn Arg Asn Lys Asn Asp Cys Thr Ala Asp Arg His Val
500 505 510

Cys Asp Pro Leu Cys Ser Asp Val Gly Cys Trp Gly Pro Gly Pro Phe
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His Cys Phe Ser Cys Arg Phe Phe Ser Arg Gln Lys Glu Cys Val Lys
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Gln Cys Asn Ile Leu Gln Gly Glu Pro Arg Glu Phe Glu Arg Asp Ser
545 550 555 560

Lys Cys Leu Pro Cys His Ser Glu Cys Leu Val Gln Asn Ser Thr Ala
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Tyr Asn Thr Thr Cys Ser Gly Pro Gly Pro Asp His Cys Met Lys Cys
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Ala His Phe Ile Asp Gly Pro His Cys Val Lys Ala Cys Pro Ala Gly
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Val Leu Gly Glu Asn Asp Thr Leu Val Trp Lys Tyr Ala Asp Ala Asn
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Ile Thr Thr Ser Ser Ser Val Ser Asn Ala Gly Tyr Val Asp Asn Gly	
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Asn Met Lys Val Cys Ile Gly Thr Lys Ser Arg Leu Ser Val Pro Ser	
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Thr Tyr Val Asp Gly Asn Leu Lys Leu Thr Trp Leu Pro Asn Glu Asn	
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Leu Asp Leu Ser Phe Leu Asp Asn Ile Arg Glu Val Thr Gly Tyr Ile	
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ctg atc agt cat gtg gac gtt aag aaa gtg gtg ttt ccc aaa cta caa	384
Leu Ile Ser His Val Asp Val Lys Lys Val Val Phe Pro Lys Leu Gln	
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Phe	Ser	Gly	Phe	Gln	Asp	Val	Tyr	Ala	Asn	Tyr	Thr	Met	Gly	Pro	Arg		
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Tyr	Ile	Pro	Leu	Asp	Pro	Glu	Arg	Arg	Glu	Val	Phe	Ser	Thr	Val	Lys		
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Met	Glu	Ser	Met	Phe	Ala	Ala	Leu	Ala	Ile	Val	Lys	Ser	Ser	Leu	Tyr		
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Ile	Gln	His	Asn	Arg	Asp	Leu	Cys	Tyr	Val	Ser	Asn	Ile	Arg	Trp	Pro		
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Ala	Ile	Gln	Lys	Glu	Pro	Glu	Gln	Lys	Val	Trp	Val	Asn	Glu	Asn	Leu		
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Lys	Asn	Phe	Asn	Phe	Asn	Gly	Thr	Cys	Ile	Ala	Asp	Cys	Gly	Tyr	Ile		
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Cys Asn Leu Ala Ile Ile Asn Asn Asp Ala Thr Val Lys Arg Cys Leu															
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Pro Gly Pro Ser His Arg Thr	
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<211> 1210

<212> PRT

<213> 106 (Drosophila melanogaster)

<400> 22

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Asn Lys Glu His His Tyr Arg Asn Leu Arg Asp Arg Tyr Thr Asn Cys
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Thr Tyr Val Asp Gly Asn Leu Lys Leu Thr Trp Leu Pro Asn Glu Asn
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Ala	Gly	Gly	Arg	Cys	Tyr	Gly	Pro	Lys	Pro	Arg	Glu	Cys	Cys	His	Leu
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Glu Ile Thr Gly Tyr Leu Asn Ile Glu Gly Thr His Pro Gln Phe Arg
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Asn Leu Ser Tyr Phe Arg Asn Leu Glu Thr Ile His Gly Arg Gln Leu
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Met Glu Ser Met Phe Ala Ala Leu Ala Ile Val Lys Ser Ser Leu Tyr
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485 490 495

Ala Ile Gln Lys Glu Pro Glu Gln Lys Val Trp Val Asn Glu Asn Leu
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Arg Ala Asp Leu Cys Glu Lys Asn Gly Thr Ile Cys Ser Asp Gln Cys
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Ser Asn Ala Tyr Lys Phe Asp Asn Arg Thr Cys Lys Ile Cys His Pro
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Lys Tyr Asn Asp Arg Gly Val Cys Arg Glu Cys His Ala Thr Cys Asp
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Glu Gln Val Cys Ser Lys Cys Thr His Tyr Lys Arg Arg Glu Gln Cys
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Tyr Cys Ala Ala Ser Pro Pro Arg Ser Ser Lys Ile Thr Ala Asn Leu
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Gly Ala Glu Ser Ser Glu Glu Phe Leu Arg Glu Ala Tyr Ile Met Ala
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945 950 955 960

Ser Gln Met Met Leu Ile Thr Gln Leu Met Pro Leu Gly Cys Leu Leu
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Asp Tyr Val Arg Asn Asn Arg Asp Lys Ile Gly Ser Lys Ala Leu Leu
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Asn Trp Ser Thr Gln Ile Ala Lys Gly Met Ser Tyr Leu Glu Glu Lys
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Glu Ile Cys Ser Leu Asp	Ile Tyr Cys Thr Leu	Leu Ser Cys Trp		
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Val Phe Ala Glu Phe Ala	Arg Asp Pro Gly Arg	Tyr Leu Ala Ile		
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<211> 4281

<212> DNA

<213> 100 (Drosophila melanogaster)

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<213> ÓÉó(Rattus norvegicus)

<220>

<221> CDS

<222> (1)..(3627)

<223>

<400> 24

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Leu Phe Cys Ala Gly Gly Cys Thr Gly Pro Thr Gln Lys Asp Cys Ile	
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Ala Cys Lys Asn Phe Phe Asp Glu Ala Val Ser Lys Glu Glu Cys Pro	
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Glu Gly Lys Tyr Ala Tyr Gly Ala Thr Cys Val Lys Glu Cys Pro Gly	
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Cys	Asn	Glu	Asp	Gly	Cys	Trp	Gly	Ala	Gly	Thr	Asp	Gln	Cys	Leu	Thr					
		580					585					590								
tgc	aag	aac	ttc	aat	ttc	aat	ggc	acc	tgc	atc	gcc	gac	tgt	ggt	tat	1824				
Cys	Lys	Asn	Phe	Asn	Phe	Asn	Gly	Thr	Cys	Ile	Ala	Asp	Cys	Gly	Tyr					
	595						600				605									
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Ile	Ser	Asn	Ala	Tyr	Lys	Phe	Asp	Asn	Arg	Thr	Cys	Lys	Ile	Cys	His					
	610					615					620									
cca	gag	tgc	cgg	act	tgc	aat	gga	gct	gga	gca	gat	cac	tgc	cag	gag	1920				
Pro	Glu	Cys	Arg	Thr	Cys	Asn	Gly	Ala	Gly	Ala	Asp	His	Cys	Gln	Glu					
625					630				635						640					
tgc	gtc	cat	gtg	agg	gac	ggt	cag	cac	tgt	gtg	tcc	gag	tgc	ccg	aag	1968				
Cys	Val	His	Val	Arg	Asp	Gly	Gln	His	Cys	Val	Ser	Glu	Cys	Pro	Lys					
			645				650						655							
aac	aag	tac	aac	gat	cgt	ggt	gtc	tgc	cga	gag	tgc	cac	gcc	acc	tgc	2016				
Asn	Lys	Tyr	Asn	Asp	Arg	Gly	Val	Cys	Arg	Glu	Cys	His	Ala	Thr	Cys					
			660				665					670								
gat	gga	tgc	act	ggg	ccc	aag	gac	acc	atc	ggc	att	gga	gcg	tgt	acg	2064				
Asp	Gly	Cys	Thr	Gly	Pro	Lys	Asp	Thr	Ile	Gly	Ile	Gly	Ala	Cys	Thr					
		675					680					685								
acg	tgc	aat	ttg	gcc	att	atc	aac	aat	gac	gcc	aca	gta	aaa	cgc	tgc	2112				
Thr	Cys	Asn	Leu	Ala	Ile	Ile	Asn	Asn	Asp	Ala	Thr	Val	Lys	Arg	Cys					
	690					695					700									
ctg	ctg	aag	gac	gac	aag	tgc	ccc	gat	ggg	tat	ttc	tgg	gag	tat	gtg	2160				
Leu	Leu	Lys	Asp	Asp	Lys	Cys	Pro	Asp	Gly	Tyr	Phe	Trp	Glu	Tyr	Val					
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cat ccg caa gag cag gga tcg ctg aag cca ttg gcc ggc aga gca gtt	2208
His Pro Gln Glu Gln Gly Ser Leu Lys Pro Leu Ala Gly Arg Ala Val	
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Cys Arg Lys Cys His Pro Leu Cys Glu Leu Cys Thr Asn Tyr Gly Tyr	
740 745 750	
cat gaa cag gtg tgc tcc aag tgc acc cac tac aag cga cgg gag cag	2304
His Glu Gln Val Cys Ser Lys Cys Thr His Tyr Lys Arg Arg Glu Gln	
755 760 765	
tgc gag acc gag tgt ccg gcc gat cac tac acg gat gag gag cag cgc	2352
Cys Glu Thr Glu Cys Pro Ala Asp His Tyr Thr Asp Glu Glu Gln Arg	
770 775 780	
gag tgc ttc cag cgc cac ccg gaa tgc aat ggt tgc acg ggt ccg ggt	2400
Glu Cys Phe Gln Arg His Pro Glu Cys Asn Gly Cys Thr Gly Pro Gly	
785 790 795 800	
gcc gac gat tgc aag tct tgc cgc aac ttt aag ttg ttc gac gcg aat	2448
Ala Asp Asp Cys Lys Ser Cys Arg Asn Phe Lys Leu Phe Asp Ala Asn	
805 810 815	
gag acg ggt ccc tat gtg aac tcc acg atg ttc aat tgc acc tcg aag	2496
Glu Thr Gly Pro Tyr Val Asn Ser Thr Met Phe Asn Cys Thr Ser Lys	
820 825 830	
tgt ccc ttg gag atg cga cat gtg aac tat cag tac acg gcc att gga	2544
Cys Pro Leu Glu Met Arg His Val Asn Tyr Gln Tyr Thr Ala Ile Gly	
835 840 845	
ccc tac tgc gca gct agt ccg ccg agg agc agc aag ata act gcc aat	2592
Pro Tyr Cys Ala Ala Ser Pro Pro Arg Ser Ser Lys Ile Thr Ala Asn	
850 855 860	
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Thr Ile Cys Ile Leu Cys Val Val Thr Tyr Ile Cys Arg Gln Lys Gln	
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aag gcc aag aag gaa aca gtc aag atg acc atg gct ctg tct ggc tgc	2736
Lys Ala Lys Lys Glu Thr Val Lys Met Thr Met Ala Leu Ser Gly Cys	
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gag gat tcc gag ccg ctg cgt ccc tcg aac att gga gcc aac cta tgc	2784
Glu Asp Ser Glu Pro Leu Arg Pro Ser Asn Ile Gly Ala Asn Leu Cys	
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Lys Leu Arg Ile Val Lys Asp Ala Glu Leu Arg Lys Gly Gly Val Leu	
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gga atg gga gcc ttt gga cga gtg tac aag ggc gtt tgg gtg ccg gag Gly Met Gly Ala Phe Gly Arg Val Tyr Lys Gly Val Trp Val Pro Glu 945 950 955 960	2880
ggt gag aac gtc aag att cca gtg gcc att aag gag ctg ctc aag tcc Gly Glu Asn Val Lys Ile Pro Val Ala Ile Lys Glu Leu Leu Lys Ser 965 970 975	2928
aca ggc gcc gag tca agc gaa gag ttc ctc cgc gaa gcc tac atc atg Thr Gly Ala Glu Ser Ser Glu Glu Phe Leu Arg Glu Ala Tyr Ile Met 980 985 990	2976
gcc tct gag gag cac gtt aat ctg ctg aag ctc ctg gcc gtg tgc atg Ala Ser Glu Glu His Val Asn Leu Leu Lys Leu Leu Ala Val Cys Met 995 1000 1005	3024
tcc tca caa atg atg cta atc acg caa ctg atg ccg ctt ggc tgc Ser Ser Gln Met Met Leu Ile Thr Gln Leu Met Pro Leu Gly Cys 1010 1015 1020	3069
ctg ttg gac tat gtg cga aat aac cgg gac aag atc ggc tct aag Leu Leu Asp Tyr Val Arg Asn Asn Arg Asp Lys Ile Gly Ser Lys 1025 1030 1035	3114
gct ctg ctc aac tgg agc acg caa atc gcc aag ggc atg tcg tat Ala Leu Leu Asn Trp Ser Thr Gln Ile Ala Lys Gly Met Ser Tyr 1040 1045 1050	3159
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acc att tgg gaa ctg ctg acc ttt ggc cag cgt cca cac gag aac Thr Ile Trp Glu Leu Leu Thr Phe Gly Gln Arg Pro His Glu Asn 1130 1135 1140	3429
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ctg gag cag ccg gag att tgt tcg ctg gac att tac tgt aca ctg	3519

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ctc	tcg	tgc	tgg	cac	ttg	gat	gcc	gcc	atg	cgt	cca	acc	ttc	aag	3564											
Leu	Ser	Cys	Trp	His	Leu	Asp	Ala	Ala	Met	Arg	Pro	Thr	Phe	Lys												
1175						1180					1185															
cag	ctg	act	acg	gtc	ttt	gct	gag	ttc	gcc	aga	gat	ccg	ggg	cgc	3609											
Gln	Leu	Thr	Thr	Val	Phe	Ala	Glu	Phe	Ala	Arg	Asp	Pro	Gly	Arg												
1190						1195					1200															
tat	ctg	gcc	att	ccc	ggg	gataagttca cccggctgcc ggcttacacg								3657												
Tyr	Leu	Ala	Ile	Pro	Gly																					
1205																										
agt	caggatg	aga	aggatct	cat	ccgaaaa	ttggctccca	ccaccgatgg	gtccgaagcc	3717																	
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gact	gcacgg	atgagatgcc	caagctgaac	cgctactgca	aggatcctag	taacaagaat	3837																			
tcg	agtaccg	gagacgatga	gagggattcg	agtgcccggg	aagtgggcgt	gggtaatctg	3897																			
cg	cctcgatc	taccagtcga	tgaggatgat	tatctgatgc	ccacttgcca	accgggtccc	3957																			
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gcc	ggctaca	tggatctcat	cggagtgtcc	gttagtgtgg	acaatccgga	gtatctgcta	4077																			
aac	gcgcaga	cactgggagt	tggggagtcg	ccgataccca	cccagaccat	cgggataccg	4137																			
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<211> 1209

<212> PRT

<213> 'óÉó(Rattus norvegicus)

<400> 25

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			20					25					30			

Asp Arg Tyr Ala Arg Gln Asn Asn Arg Gln Arg His Gln Asp Ile Asp
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Arg Asp Arg Asp Arg Asp Arg Phe Leu Tyr Arg Ser Ser Ser Ala Gln
50 55 60

Asn Arg Gln Arg Gly Gly Ala Asn Phe Ala Leu Gly Leu Gly Ala Asn
65 70 75 80

Gly Val Thr Ile Pro Thr Ser Leu Glu Asp Lys Asn Lys Asn Glu Phe
85 90 95

Val Lys Gly Lys Ile Cys Ile Gly Thr Lys Ser Arg Leu Ser Val Pro
100 105 110

Ser Asn Lys Glu His His Tyr Arg Asn Leu Arg Asp Arg Tyr Thr Asn
115 120 125

Cys Thr Tyr Val Asp Gly Asn Leu Lys Leu Thr Trp Leu Pro Asn Glu
130 135 140

Asn Leu Asp Leu Ser Phe Leu Asp Asn Ile Arg Glu Val Thr Gly Tyr
145 150 155 160

Ile Leu Ile Ser His Val Asp Val Lys Lys Val Val Phe Pro Lys Leu
165 170 175

Gln Ile Ile Arg Gly Arg Thr Leu Phe Ser Leu Ser Val Glu Glu Glu
180 185 190

Lys Tyr Ala Leu Phe Val Thr Tyr Ser Lys Met Tyr Thr Leu Glu Ile
195 200 205

Pro. Asp Leu Arg Asp Val Leu Asn Gly Gln Val Gly Phe His Asn Asn
210 215 220

Tyr Asn Leu Cys His Met Arg Thr Ile Gln Trp Ser Glu Ile Val Ser
225 230 235 240

Asn Gly Thr Asp Ala Tyr Tyr Asn Tyr Asp Phe Thr Ala Pro Glu Arg
245 250 255

Glu Cys Pro Lys Cys His Glu Ser Cys Thr His Gly Cys Trp Gly Glu
260 265 270

Gly Pro Lys Asn Cys Gln Lys Phe Ser Lys Leu Thr Cys Ser Pro Gln
275 280 285

Cys Ala Gly Gly Arg Cys Tyr Gly Pro Lys Pro Arg Glu Cys Cys His
290 295 300

Leu Phe Cys Ala Gly Gly Cys Thr Gly Pro Thr Gln Lys Asp Cys Ile
305 310 315 320

Ala Cys Lys Asn Phe Phe Asp Glu Ala Val Ser Lys Glu Glu Cys Pro
325 330 335

Pro Met Arg Lys Tyr Asn Pro Thr Thr Tyr Val Leu Glu Thr Asn Pro
340 345 350

Glu Gly Lys Tyr Ala Tyr Gly Ala Thr Cys Val Lys Glu Cys Pro Gly
355 360 365

His Leu Leu Arg Asp Asn Gly Ala Cys Val Arg Ser Cys Pro Gln Asp
370 375 380

Lys Met Asp Lys Gly Gly Glu Cys Val Pro Cys Asn Gly Pro Cys Pro
385 390 395 400

Lys Thr Cys Pro Gly Val Thr Val Leu His Ala Gly Asn Ile Asp Ser
405 410 415

Phe Arg Asn Cys Thr Val Ile Asp Gly Asn Ile Arg Ile Leu Asp Gln
420 425 430

Thr Phe Ser Gly Phe Gln Asp Val Tyr Ala Asn Tyr Thr Met Gly Pro
435 440 445

Arg Tyr Ile Pro Leu Asp Pro Glu Arg Arg Glu Val Phe Ser Thr Val
450 455 460

Lys Glu Ile Thr Gly Tyr Leu Asn Ile Glu Gly Thr His Pro Gln Phe
465 470 475 480

Arg Asn Leu Ser Tyr Phe Arg Asn Leu Glu Thr Ile His Gly Arg Gln

485

490

495

Leu Met Glu Ser Met Phe Ala Ala Leu Ala Ile Val Lys Ser Ser Leu
 500 505 510

Tyr Ser Leu Glu Met Arg Asn Leu Lys Gln Ile Ser Ser Gly Ser Val
 515 520 525

Val Ile Gln His Asn Arg Asp Leu Cys Tyr Val Ser Asn Ile Arg Trp
 530 535 540

Pro Ala Ile Gln Lys Glu Pro Glu Gln Lys Val Trp Val Asn Glu Asn
 545 550 555 560

Leu Arg Ala Asp Leu Cys Glu Lys Asn Gly Thr Ile Cys Ser Asp Gln
 565 570 575

Cys Asn Glu Asp Gly Cys Trp Gly Ala Gly Thr Asp Gln Cys Leu Thr
 580 585 590

Cys Lys Asn Phe Asn Phe Asn Gly Thr Cys Ile Ala Asp Cys Gly Tyr
 595 600 605

Ile Ser Asn Ala Tyr Lys Phe Asp Asn Arg Thr Cys Lys Ile Cys His
 610 615 620

Pro Glu Cys Arg Thr Cys Asn Gly Ala Gly Ala Asp His Cys Gln Glu
 625 630 635 640

Cys Val His Val Arg Asp Gly Gln His Cys Val Ser Glu Cys Pro Lys
 645 650 655

Asn Lys Tyr Asn Asp Arg Gly Val Cys Arg Glu Cys His Ala Thr Cys
 660 665 670

Asp Gly Cys Thr Gly Pro Lys Asp Thr Ile Gly Ile Gly Ala Cys Thr
 675 680 685

Thr Cys Asn Leu Ala Ile Ile Asn Asn Asp Ala Thr Val Lys Arg Cys
 690 695 700

Leu Leu Lys Asp Asp Lys Cys Pro Asp Gly Tyr Phe Trp Glu Tyr Val
 705 710 715 720

His Pro Gln Glu Gln Gly Ser Leu Lys Pro Leu Ala Gly Arg Ala Val
725 730 735

Cys Arg Lys Cys His Pro Leu Cys Glu Leu Cys Thr Asn Tyr Gly Tyr
740 745 750

His Glu Gln Val Cys Ser Lys Cys Thr His Tyr Lys Arg Arg Glu Gln
755 760 765

Cys Glu Thr Glu Cys Pro Ala Asp His Tyr Thr Asp Glu Glu Gln Arg
770 775 780

Glu Cys Phe Gln Arg His Pro Glu Cys Asn Gly Cys Thr Gly Pro Gly
785 790 795 800

Ala Asp Asp Cys Lys Ser Cys Arg Asn Phe Lys Leu Phe Asp Ala Asn
805 810 815

Glu Thr Gly Pro Tyr Val Asn Ser Thr Met Phe Asn Cys Thr Ser Lys
820 825 830

Cys Pro Leu Glu Met Arg His Val Asn Tyr Gln Tyr Thr Ala Ile Gly
835 840 845

Pro Tyr Cys Ala Ala Ser Pro Pro Arg Ser Ser Lys Ile Thr Ala Asn
850 855 860

Leu Asp Val Asn Met Ile Phe Ile Ile Thr Gly Ala Val Leu Val Pro
865 870 875 880

Thr Ile Cys Ile Leu Cys Val Val Thr Tyr Ile Cys Arg Gln Lys Gln
885 890 895

Lys Ala Lys Lys Glu Thr Val Lys Met Thr Met Ala Leu Ser Gly Cys
900 905 910

Glu Asp Ser Glu Pro Leu Arg Pro Ser Asn Ile Gly Ala Asn Leu Cys
915 920 925

Lys Leu Arg Ile Val Lys Asp Ala Glu Leu Arg Lys Gly Gly Val Leu
930 935 940

Gly Met Gly Ala Phe Gly Arg Val Tyr Lys Gly Val Trp Val Pro Glu
945 950 955 960

Gly Glu Asn Val Lys Ile Pro Val Ala Ile Lys Glu Leu Leu Lys Ser
965 970 975

Thr Gly Ala Glu Ser Ser Glu Glu Phe Leu Arg Glu Ala Tyr Ile Met
980 985 990

Ala Ser Glu Glu His Val Asn Leu Leu Lys Leu Leu Ala Val Cys Met
995 1000 1005

Ser Ser Gln Met Met Leu Ile Thr Gln Leu Met Pro Leu Gly Cys
1010 1015 1020

Leu Leu Asp Tyr Val Arg Asn Asn Arg Asp Lys Ile Gly Ser Lys
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Ala Leu Leu Asn Trp Ser Thr Gln Ile Ala Lys Gly Met Ser Tyr
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Leu Glu Glu Lys Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn
1055 1060 1065

Val Leu Val Gln Thr Pro Ser Leu Val Lys Ile Thr Asp Phe Gly
1070 1075 1080

Leu Ala Lys Leu Leu Ser Ser Asp Ser Asn Glu Tyr Lys Ala Ala
1085 1090 1095

Gly Gly Lys Met Pro Ile Lys Trp Leu Ala Leu Glu Cys Ile Arg
1100 1105 1110

Asn Arg Val Phe Thr Ser Lys Ser Asp Val Trp Ala Phe Gly Val
1115 1120 1125

Thr Ile Trp Glu Leu Leu Thr Phe Gly Gln Arg Pro His Glu Asn
1130 1135 1140

Ile Pro Ala Lys Asp Ile Pro Asp Leu Ile Glu Val Gly Leu Lys
1145 1150 1155

Leu Glu Gln Pro Glu Ile Cys Ser Leu Asp Ile Tyr Cys Thr Leu
 1160 1165 1170

Leu Ser Cys Trp His Leu Asp Ala Ala Met Arg Pro Thr Phe Lys
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Tyr Leu Ala Ile Pro Gly
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<220>

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Gly Ser Phe Cys Ala Thr Pro Glu Lys Lys Val Cys Gln Gly Ala Asn	
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aac aaa ctg act ctt ctg gga acg gtg gaa gac cat tat cag gtt ctg	144
Asn Lys Leu Thr Leu Leu Gly Thr Val Glu Asp His Tyr Gln Val Leu	
35 40 45	

ctc aga atg tac aga aac tgc act gtg gtt ctg gag aac ctg gaa att	192
Leu Arg Met Tyr Arg Asn Cys Thr Val Val Leu Glu Asn Leu Glu Ile	
50 55 60	

aca cat ata aca gag aaa tat gac ctg tcc ttc ctc aag agc atc cag	240
Thr His Ile Thr Glu Lys Tyr Asp Leu Ser Phe Leu Lys Ser Ile Gln	
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cct ctg gag aac ctg cgc atc att cgc gga cac tca ctt tat gaa gac Pro Leu Glu Asn Leu Arg Ile Ile Arg Gly His Ser Leu Tyr Glu Asp 100 105 110	336
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Cys Val Arg Thr Cys Ser Pro Gly Thr Tyr Glu Val Asp Glu Gly Gly	
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Val Arg Lys Cys Lys Arg Cys Glu Gly Leu Cys Pro Lys Val Cys Asn	
325 330 335	
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Gly Leu Gly Met Gly Pro Leu Ala Asn Val Leu Ser Ile Asn Ala Thr	
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Ile Leu Ser Thr Thr Phe Arg Gly Asp Pro His Thr Asn Thr Ser Gly	
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Thr Tyr Ser Phe Ala Val Thr Lys Thr Ala Ile Thr His Leu Gly Met	
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Cys Ala Asn Gln Asn Ser Thr Cys Asn Glu Met Cys Thr Ala Asp Gly	
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Cys Trp Gly Pro Gly Pro Thr Met Cys Phe Gly Cys Glu His Tyr Ser	
515 520 525	
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Arg Gly Lys His Cys Val Ala Ser Cys Asn Leu Leu Asn Gly Glu Pro	

530	535	540	
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gtt att ctg gct ctt gga gtg gcc gtt ctc ctg cgc aga cgc cac atc Val Ile Leu Ala Leu Gly Val Ala Val Leu Leu Arg Arg Arg His Ile 660 665 670			2016
cgg agg aag agg act ctg aga cga ctc ctg caa gag aga gag ctt gtg Arg Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu Val 675 680 685			2064
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Val Arg Glu Asn Lys Asp Arg Ile Gly Ser Gln His Leu Leu Asn Trp	
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Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Glu Arg His Leu	
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Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro Gln	
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Val Asp Ala Asp Glu Tyr Leu Val Pro Asn His Ser Phe Phe Ser	
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Leu Arg Met Tyr Arg Asn Cys Thr Val Val Leu Glu Asn Leu Glu Ile
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Thr His Ile Thr Glu Lys Tyr Asp Leu Ser Phe Leu Lys Ser Ile Gln
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Glu Val Gly Gly Tyr Val Leu Ile Ala Val Asn Thr Val Ser Lys Ile
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Pro Leu Glu Asn Leu Arg Ile Ile Arg Gly His Ser Leu Tyr Glu Asp
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Lys Phe Ala Leu Ala Val Leu Val Asn Phe Asn Asn Ser Ile Glu Gln
115 120 125

Gly Val Lys Glu Leu Pro Leu Thr Ser Leu Thr Glu Ile Leu Lys Gly
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Gly Val Lys Phe Cys Arg Asn Asp Tyr Leu Cys Asn Val Gly Thr Ile
145 150 155 160

Glu Trp Ala Asp Ile Leu Asn Met Lys Ser Leu Pro Thr Ile Val Ser
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His Asn Ile Ser Tyr Gly Lys Asn Cys Gly Lys Cys Asp Pro Ser Cys

180

185

190

Phe Asn Gly Ser Cys Trp Gly Thr Gly Pro Asp Lys Cys Gln Arg Met
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Thr Lys Val Ile Cys Ala Glu Gln Cys Ser Gly Arg Cys Lys Gly Pro
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Arg Pro Ile Asp Cys Cys Asn Glu His Cys Ala Ala Gly Cys Thr Gly
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Pro Arg Pro Thr Asp Cys Leu Ala Cys Lys Asp Phe Gln Asp Glu Gly
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His Gln Leu Ala Pro Asn Pro Tyr Gly Lys Tyr Ser Phe Gly Ala Thr
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Cys Ile Lys Thr Cys Pro His Asn Tyr Val Val Thr Asp His Gly Ala
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Cys Val Arg Thr Cys Ser Pro Gly Thr Tyr Glu Val Asp Glu Gly Gly
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Val Arg Lys Cys Lys Arg Cys Glu Gly Leu Cys Pro Lys Val Cys Asn
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Gly Leu Gly Met Gly Pro Leu Ala Asn Val Leu Ser Ile Asn Ala Thr
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Asn Ile Asp Ser Phe Glu Asn Cys Thr Lys Ile Ser Gly Asn Val Ala
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Ile Leu Ser Thr Thr Phe Arg Gly Asp Pro His Thr Asn Thr Ser Gly
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Gly Tyr Leu Met Ile Gln Leu Trp Pro Glu Ser Met Gln Ser Leu Ser
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Ala Phe Glu Asn Leu Glu Val Ile Arg Gly Arg Thr Lys Thr Gln Gly
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Thr Tyr Ser Phe Ala Val Thr Lys Thr Ala Ile Thr His Leu Gly Met
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Arg Ser Leu Arg Glu Ile Ser Asp Gly Asp Val Ser Ile Val Lys Asn
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Lys Asn Leu Cys Tyr Ser Ser Pro Glu His Trp Lys Arg Leu Phe Lys
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Ser Lys Gln Gln Ser Val Lys Met Ile Glu Asn Met Asp Ala Ala Thr
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Cys Ala Asn Gln Asn Ser Thr Cys Asn Glu Met Cys Thr Ala Asp Gly
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Lys Ala Asn Lys Glu Ile Met Asp Glu Ala Tyr Val Met Ala Ser Val
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Ala Leu Glu Ser Ile Gln His Arg Thr Tyr Thr His Gln Ser Asp Val
885 890 895

Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Thr Lys
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Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ala Gly Val Leu Glu Lys
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Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr Met
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Ile Met Val Lys Cys Trp Met Ile Asp Ala Glu Ser Arg Pro Arg Phe
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Arg Glu Leu Ile Ala Glu Phe Thr Lys Met Ala Arg Asp Pro Ser Arg
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Tyr Leu Val Ile Gln Gly Asp Asp Arg Met His Leu Pro Ser Pro Ser
980 985 990

Asp Ser Lys Phe Tyr Arg Ser Leu Met Ser Gly Glu Leu Asp Glu Ala
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Val Asp Ala Asp Glu Tyr Leu Val Pro Asn His Ser Phe Phe Ser
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1085

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